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OUR RAILWAYS

OPENING OF THE FORTH BRIDGE BY THE PRINCE OF WALES (*p.* 362

OUR RAILWAYS

THEIR ORIGIN DEVELOPMENT INCIDENT AND ROMANCE

98646

BY

JOHN PENDLETON

Author of "A History of Derbyshire," "Newspaper Reporting in Olden Time and To-day," &c.

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OUR RAILWAYS.

CHAPTER XXV.

RAILWAY ROMANCE, HUMOUR, AND TRAGEDY.

The Romance and Incident of Travel—Perils to Children—The Headstrong Passenger's Struggle—Pleasant Companions—Dangerous Sport: Throwing Stones at Railway Carriages—Flinging Bottles on the Track—A Miner's Solicitude about his Complexion—An Emphatic Invitation—Life in a Compartment—Mothers and their Ways—The Bachelor's Threat—Train Robbers—Station Thieves—The Countess's Jewellery—Dramatic Episodes on the Line—Two Noted Railway Tragedies—An Officer's Downfall—A Rascal in Preacher's Guise—The Agitation Against Outrages—A Question in Parliament—"Not Safe for a Lady to Travel Alone"—The Railway to be Managed by Women.

THE English railway system has grown so enormously that the passengers it carries are counted by hundreds of millions. The conveyance of so many human beings is only possible by constant thought and unremitting work by day and night, and the transit is accompanied, though we are supposed to live in a prosaic age, with much startling incident and romance. The railway, with its deep cutting and gruesome tunnel and crowded station, has provided the novelist with many a thrilling story; indeed, the most dramatic fiction is only feeble in comparison with the dramatic fact and incident of the line. Man and woman, weary of struggling with poverty, or demented with grief, or seeking desperate escape from the law, find swift death in front of the express. A boy, sheltering

beneath a truck from the rain, discovers to his dismay that the train has begun to move, and in a moment he is maimed for life.

"Helen's Babies" are not the only restless, frolicsome little ones in the world. Most of us are blessed with children. We caress them, punish them, sacrifice ourselves for them, and succeed fairly well in managing them at home; but on a long railway journey they get entirely beyond control. They become hot, dusty, thirsty, weary; yet they find it impossible to sit still—fidget hither and thither, crawl about the seats, try to climb on to the hat rail, toy with the carriage handle, yearn to get out and walk, chew the leather straps, flatten their noses against the panes, lean against the doorway, let down the window, and threaten to fall or jump out. It is then that parents endure torment. The English mother, ever a prey to the keenest maternal anxiety, becomes heart-sick and wan, painfully alert with nervous dread at the possible fate of her darlings. The father, hesitating to apply the Bishop of Chester's remedy in public, resolves to use the rod later on, and sits sternly passive, conscious, however, that the ordeal is making him haggard and grey. A load is taken off his mind if nothing happens on the journey. Now and then something does happen. There is a startled cry, a mother's hands and quivering lips at the window, and on the line a child's bruised or lifeless form.

In the report presented to the Board of Trade with regard to the accidents that occurred on home railways

during 1891, it is stated that "several cases were brought under the notice of the Department in which children fell out of trains in motion. Correspondence has taken place with the railway companies upon the subject. The use of inside handles, especially those downward pressure on which opens the doors of the compartment, has been proved to be a source of danger to children, and the employment in excursion trains of carriages with such handles has on some of the principal railways been discontinued. At the same time it should be borne in mind that the responsibility for such accidents often rests largely with the persons in charge of the children, and that no amount of precautions taken by the railway companies can wholly remove the risk of accidents if children are not kept under proper supervision in the compartment in which they may be travelling."

A girl, crossing the line, catches her foot in the rails, is held a prisoner, and is only saved from a fearful death by the promptitude of the signalman, who cuts her boot away and frees her from frenzied captivity just as the express dashes up. A child thoughtlessly frolics on the line as a fast train approaches. The mother struggles in the stationmaster's grasp, shrieks, and swoons. The train rushes by; and the child, raising its head above the metals, rubs its eyes and shouts, "It's gone, mother!" half turning to watch the receding train. The little one has stumbled into a cavity in the ballast between the sleepers, and escaped without a bruise.

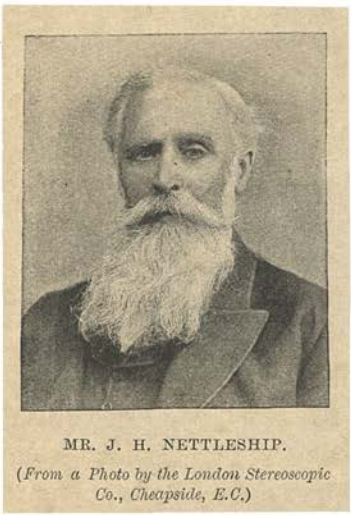
A group of school children, playing near a level crossing, dare each other to go the nearest to a passing train, and one of the girls gives a piteous shriek as she is drawn under the wheels. An old woman, who has come down by the market-train and made her purchases, and is returning home with her big basket filled with wares, does not hear the porter's warning at the busy station as she crosses the wooden way from platform to platform, and is cut to pieces by the express. A man, in earnest argument with his friend, moves too near the edge of the platform, and falls backward upon the line just as a train is running into the station; but he is not killed: his presence of mind saves him, for he lies motionless between the rails, and the train, in passing over him, only grazes one of his ribs. A lad lingers too long on the carriage step as he bids adieu to his schoolmate, and in jumping off is whirled between the platform rim and the train, and taken to the hospital a grievous wreck.

The loud angry shout, "Stand back!" has no significance to another person, who, even as the train is moving, persists in a final handshake with his friend, and, when he is obliged to relinquish his grip, is twisted round and falls in front of the guard's brake van, which passes over him. The passenger who goes through life too late rushes into the station just as the guard has blown his whistle and waved his green flag. Every carriage door is shut—the train is on the move; but the passenger heeds not: shouts and cries are in

vain. He springs on the footboard and grips the carriage-handle simultaneously. Then there is a rush of porters. They seize him by the collar, the arms, the legs; they give a strong pull together; but the passenger, wild with rage or with fear, clings desperately to the carriage-handle. The speed of the train increases; the porters run alongside still retaining their hold; they approach the end of the platform; there is no further time for expostulation: the man must be dragged off the footboard; and, with a determined tug, they wrench him away, reel in a confused mass over a lamp-waggon, and fall a tumbled heap on the platform.

Nothing, perhaps, in our modern life is so full of incident as railway travel. One day some foolish fellow, overstocked with pugnacity, will strip himself to the waist and offer to fight any passenger in the compartment with one hand, pleading with you to tie the other behind his back. Another day a devoted student of natural history will enter a carriage with a bull-dog as his pet, gravely place the animal on the seat by his side, with the remark that his canine friend is pure bred, and quite capable of instantly settling the half-dozen passengers who huddle away in affright from the ferocious beast. Now you are amused or fleeced by the acute, eager, ever-journeying swindlers who, with persuasive voice and marvellous finger dexterity, live upon the three-card trick or other thieving game. Then there may be a crash of glass, and some passenger's head is cut by a stone thrown in pure mischief, especially if he

is travelling by West Bromwich, where the youths seem to have developed stone-throwing at trains into an almost daily physical exercise. Mr. J. H. Nettleship, superintendent of the Great Eastern Railway, states that on this company's line alone one hundred and ninety-nine carriage windows were broken during one month recently, the damage in most of the cases being due to stones thrown at the trains in London and the suburbs. It is, he says, a common practice for gangs of boys and youths to station themselves at a level crossing or on an over-line bridge, or in the vacant land near the line in Bethnal Green and Stepney, and, when a favourite opportunity occurs, to stone a passing train, particularly if it is a passenger train.



MR. J. H. NETTLESHIP.
(From a Photo by the London Stereoscopic Co., Cheapside, E.C.)

There are many ways of committing suicide, and the railway has not lessened the number. But perhaps the most remarkable suicide ever committed on the steel track was that of Giuseppe Dellvido, an Italian organ-grinder, who climbed the parapet of the District Railway bridge at Ealing, and sprang upon a passing train, alighting with his head on the roof of a second-class carriage, and rolling, after he had been carried two hundred yards by the train, upon the line. In Ireland

many strange manners and customs still linger. In some of the remote villages the men hug and kiss each other as a prelude to fight; but a more erratic pastime even than that has lately aroused comment in Monaghan. While a special train was conveying excursionists to the opening of the new cathedral there in August, 1892, some youths, with a more peculiar sense of frolic than any of Charles Lever's characters, dropped stones from a bridge upon the moving carriages, and one boulder smashed the roof of a first-class compartment, causing great alarm among the female passengers.

The folly of throwing stones into trains is only equalled by the criminal thoughtlessness of passengers who fling bottles out of the carriages, and send them whisking gaily down the line, utterly regardless of their billet. Many a driver has been seriously injured by this pernicious practice, and it is also the terror of the signalman whose box happens to be within fire. Not long ago a passenger journeying by the morning express from Liverpool to London threw a bottle out of the window just as the Euston express was passing Berkhampstead. The bottle struck the fireman of the Euston train, and nearly cut one of his eyes out.

So many cases of injury have occurred through this thoughtless practice of pitching bottles out of railway carriage windows that the London and North-Western Company at the commencement of the tourist season now issue a notice, drawing attention to the evil and dangerous habit, making an earnest request that

passengers will abstain from the practice, and stating that empty bottles may be left in the carriages.

In an industrial locality, where the miners smoke thick twist tobacco as they travel, you may run the risk of suffocation, for these men dislike a breezy carriage. Nay, one of them once emphatically upbraided a fashionable but third-class passenger for keeping the window down, saying as he flung it up again with a great bang, and a face as black and fierce as that of a captured Zulu at Ulundi, "If thah wants to tak a chill, thah'd better tak it i' another carriage. Does thah want to spoil us complexshuns?" If you are travelling through Lancashire the carriage door may be flung open at some station, and a big box, an operative's wife, two children, and a baby, invade the already crowded compartment; while the husband, standing in hesitancy on the platform, is encouraged to crush into the carriage by his wife's dulcet invitation: "Nah then; ger in, tha silly!"

No phase of life or of death in a railway carriage surprises one. The thirsty passenger may produce her travelling tea-basket, fix it to the carriage window frame, and brew a cup of tea by the perilous aid of a spirit lamp. The smoker may thoughtlessly drop a lighted match into the window slot of the old-fashioned compartment and set the carriage on fire. Mother and nurse may enter a compartment, dive into the domestic hand-bag, bring out sponge, soap, puff-box, towel, safety pins, pretty ribbon, and dainty apparel; then strip the baby, wash it, dry it, puff it, kiss away its tears, fondle

it, and threaten to eat it, remarking meanwhile: "Did 'em, then? They shan't grieve it. Oh, my precious! It's a lovey-dovey-darling—bless it!" Or the precise, grim old bachelor may find to his annoyance that he has entered a compartment containing a mother of another sort—a woman who allows her child to cry and whine as it creeps about the carriage floor while she is immersed in cheap fiction. Perhaps the youngster is thrown by the train's lurch against the woodwork, and cries the louder; but its mother is so absorbed in the story—in the love-making of the tall, handsome nobleman with the flashing eyes, and the lithe, fair girl with beauteous face, who clings to him as the shadows of the night fall on the moss-grown ivy-clad terrace—that she gives only scant and impatient notice to her own offspring, keeping the child away from her knees with her left foot, and saying: "Shut up, yer young nuisance." But somehow the little one cannot "shut up." It is hungry, weary, in pain; or its little heart is well-nigh broken by its mother's neglect, and it sobs and cries the louder. The old bachelor surges with rage, and bending towards the woman with his body quivering, and his face purple, says: "You'll pardon me, madam; but if you don't stop this yelling, I shall be obliged to drop the child out of the carriage window!"

The cashier may place his thick leather bag, heavy with the week's wages of the men at the works yonder, on the carriage seat at the station for a moment while he gossips with the bank clerk on the platform, and suddenly discover that the bag has gone, has been

stolen by some agile railway thief, who has climbed through the opposite window, grasped the bag, and escaped on the off side of the carriage. The dishonest side of railway travelling is not so romantic in England as it is abroad. Masked robbers do not board the cars as in America; nor are railway passengers, on their way from London to Edinburgh, brought up at Shap by brigands in gay attire, carried off to wild moorland glen and held in close captivity till ransomed. Still there have been some daring robberies from English trains. More than one mail-bag, rich with spoil, has been carried off; and in 1891, on the Wycombe branch of the Great Western, a man entered a van at midnight, released the brake, and sent the train down an incline in the hope that it would run into collision with an engine that was clearing the siding, so that he could, in the confusion, steal the mails.

The luggage thief, though he or she occasionally gets five years' penal servitude, still turns up amid the bustle of the arriving train and steals your box. At Paddington terminus there was a good deal of half-suppressed excitement on the 12th December, 1874, not owing to railway disaster, but because the Countess of Dudley had been robbed of jewellery at first valued at £50,000. One of her ladyship's servants placed the jewel case on the platform for a moment to assist a fellow-servant from the cab. When she had done this kindly but thoughtless act, she found to her astonishment that the case had disappeared. One thousand pounds was

offered for the discovery of the thief; but the jewels are still missing. Even the railway guard, invariably polite and attentive, and honest and honourable withal, does now and then lapse, one of the most notorious instances being that of one who, working a train from Birmingham to Rugby on the London and North-Western Railway, opened the boxes and trunks placed in his care by means of false keys, and stole necklaces, bracelets, and trinkets of all kinds, some of which, when detection seemed imminent, he hid in fields.

Death, peaceful or tragical, sometimes enters the railway carriage. The business man steps eagerly into the express on his way to fulfil some important engagement, and makes no reply to the ticket collector at the next stopping-place. His restless activity, his hopes and fears, his business schemes and ambitions, have been checked by death. A jealous lover chats with apparent light-heartedness until the tunnel is reached, then whips out a bull-dog revolver and shoots his sweetheart and himself. The Slough signal box, on the Great Western Railway, has had a romance of its own. The cabin was erected in 1844, and one of the earliest messages the signalman wired to London was intelligence of the birth of the Duke of Edinburgh. The following year a man named Tawell committed a murder at Salthill, and escaped by the next train to London; but information was telegraphed to Paddington, and he was arrested, tried, and hanged. Sir Francis Head has recorded how he was travelling along the line months after, in a crowded carriage.

"Not a word had been spoken since the train left London, but as we neared Slough Station, a short-bodied, short-necked, short-nosed, exceedingly respectable looking man in the corner, fixing his eyes on the apparently fleeting wires, nodded to us as he muttered aloud, 'Them's the cords that hung John Tawell!'"

SIR FRANCIS HEAD.

(From a Photograph by Edmund Wheeler, Brighton.)

Roderick Maclean fired at the Queen in March, 1882, as she entered her carriage at Windsor railway station; and a disappointed suitor shot at, and severely injured, his honour Judge Bristowe as the latter was getting into the Derby train at Nottingham railway station in November, 1889; but on English railways the crime of murder has been rare. You hear the reader say, "The papers are full of tragedies;" but they are tragedies chiefly committed in crowded city or countryside, crimes that are the outcome of jealousy, drink, or passion, or of legislative disregard of the dangers that arise from permitting the revolver to become a plaything among boys, disappointed lovers, and political madmen.*

* On April 26, 1893, a gunmaker's assistant was arrested in London for threatening to shoot Mr. Gladstone, and for revolver-firing in Downing Street. It is now probable that legislation will step in to check this revolver-carrying mania.

"Railway travelling, especially by night, is," says one writer, "a risky business in France. In the course of the last thirty years there have been eight-and-twenty murders or attempted murders on French railway lines. Most of these have been in express trains and during night journeys, and in almost every case the assault has been in a first-class carriage. Of the eight-and-twenty attempts there were convictions only in thirteen cases. More than half the culprits escaped. One assassin, having secured his booty, had the courage to pull the cord, and in the confusion of the stopping train, escaped into the darkness on the off-side of the carriage. France takes the lead in this kind of crime. Her twenty-eight cases are not approached by any other European country. Austria has had one, Spain two, England four, Italy five, Russia and Turkey each seven; while in Germany, Switzerland, Holland, and Belgium there have been no instances of murder."

One of the most thrilling crimes that have occurred on an English railway was the murder of Mr. Thomas Briggs on July 9, 1864. On the arrival of the night train at Hackney from Fenchurch Street, on the North London Railway, a passenger entered a first-class compartment in No. 69 carriage, and was startled to find one of the cushions saturated with blood. The guard was told, and he noticed evidences of a fierce struggle. The floor and even the windows were flecked with blood, and the carriage seats were mauled. A hat, a walking-stick, and a small bag

were found in the compartment; but no occupant, except the passenger who had called attention to the condition of the seating. The mystery was soon solved. The driver of an engine running by the Milford Arms tavern discerned a figure upon the line, the form of a man, splashed with blood, chiefly from fearful wounds in the head. The man was alive, but speechless, and he died in a few minutes without giving a clue to his murderer.

Circumstantial evidence, which has led more than one detective astray, proved in this case a trustworthy guide. The victim of the crime, it was ascertained from letters in his pocket-book, was Mr. Thomas Briggs, chief clerk in the Lombard Street banking-house of Messrs. Robarts and Co. He went from Peckham to Fenchurch Street in an omnibus, and at the latter place entered the train for Hackney, his home. His money, nearly £5 in gold and silver, was untouched. A silver snuff-box was also found in one of his pockets. But his gold watch had been stolen, his albert guard ripped out of vest button-hole and broken; and his gold eye-glass, which he usually wore with a hair guard, had gone. The stick and bag found in the railway carriage were the property of Mr. Briggs; but the hat belonged to somebody else.

The murder caused a great sensation. The railway had become an indispensable agent in national life; everybody used it. But this crime gave travellers a fearful shock. They wanted to journey in groups for

mutual safety. If a man entered a compartment alone, however inoffensive, God-fearing, and man-frightened he might be, he was immediately suspected of being a murderer, especially if he had a foreign look. For some days the police were at their wits' end, and not altogether unhampered by the fierce outcry for the criminal. The Government did a sensible thing. They offered £100 for his arrest; and the bank volunteered a similar sum. Mr. Briggs's watch-chain was first traced. It had been exchanged for another by a foreigner at the shop of Mr. Death in Cheapside. The hat found in the carriage was identified by a cabman as one he had bought for Franz Müller, who had come from Cologne to seek his fortune in London, and had lodged at his house. Müller, moreover, had given his children a little cardboard box bearing Mr. Death's name; and at the time was wearing a gold chain and a ring. Putting this and that together, the police were confident that they were on the murderer's track, and their faith proved sound. Müller, who was making love to the cabman's sister, gave the young woman his photograph. Mr. Death recognised it as that of the man with whom he had exchanged the watch-chain. Müller had a sprained ankle, caused, it was believed, by the struggle in or fall from the train. He could not satisfactorily account for his possession of Mr. Briggs's hat, which he had ingeniously reduced in size; or for his whereabouts on the night of the tragedy, so he quitted London in a hurry for Liverpool, and sailed for New

York in the ship *Victoria.* The detectives, discovering by means of a letter posted at Worthing that he was crossing the Atlantic, followed him in a faster boat, overhauled the *Victoria,* and apprehended Müller at New York before he left the ship. He was brought back to England, tried on September 17th at the Central Criminal Court, and sentenced to death by Mr. Baron Martin. Both on board ship and in court he protested that he was innocent. He told the judge that he was satisfied with the sentence because he knew it was the one the law of the country prescribed, but he asserted that he had been convicted on a false statement; and he was so overcome, evidently by a sense of injustice, that he wept bitterly.

On November 14th he was pinioned and led to the scaffold. Singularly taciturn during the time he passed in the condemned cell, he made no mention of the crime. Reported confessions found credence outside the prison, but Müller kept his own counsel till he had mounted the scaffold, when he at last confessed.

"Müller," said Dr. Cappel, his chaplain, as the hangman was about to begin his work, "in a few moments you will stand before God. I ask you again, and for the last time, are you guilty or not guilty?"

Müller: "Not guilty."

Dr. Cappel: "You are not guilty?"

Müller: "God knows what I have done."

Dr. Cappel: "God knows what you have done.

Does He also know that you have committed this crime?"

Müller (who had been placed upon the drop) muttered in German: "Ja; Ich habe es gethan" ("Yes; I did it"); and the words had scarcely left his lips when the hangman drew the bolt, and the murderer was lifeless.

SPOT WHERE MR. GOLD'S BODY WAS FOUND.

BALCOMBE TUNNEL.

A greater sensation still was caused by the murder, on June 27, 1881, of Mr. Gold, a merchant, while travelling in an express train from London to Brighton. The crime was committed in somewhat similar circumstances. Thomas Mapleton Lefroy, who, after the

fashion of many men in scrapes, glibly described himself as a journalist, savagely attacked his fellow-passenger with revolver and knife, with the object of robbery, and inflicted many dreadful wounds upon him. Nevertheless Mr. Gold struggled desperately with his assailant, but was ultimately flung from the carriage, and found dead upon the line. Lefroy, after telling a specious story to account for his own injuries, escaped. The Government and the London and Brighton Railway Company offered rewards of £100 each for the man's arrest. He was reported to be in four places at once, and for a time securely hid himself in the labyrinths of London.

At the inquest it was stated that when the body of Mr. Gold was found in Balcombe Tunnel the face was mutilated, and there was a gunshot wound in the throat. The tragedy was described by the coroner—how the guard, Watson, saw Mr. Gold apparently asleep in the carriage at Croydon; how Lefroy, the only occupant of the compartment when the train reached Preston Park, was smeared with blood, and had had his collar torn away; how a bullet was found embedded in the panel-work close to the electric communicator, and another in one of the cushions. Lefroy's statement that the crime had been committed by another passenger who had escaped was ridiculed, because Mr. Gold's watch, with a small piece of the chain, was seen in his (Lefroy's) shoe as he stood on the platform at Preston Park. It was undoubtedly, in the coroner's opinion, the hand of Lefroy "that committed the foul

deed," and the jury returned a verdict of wilful murder against him. Placards offering the reward for his arrest were then issued by the police; and the literature from Scotland Yard included a portrait of Arthur Lefroy, *alias* Lefroy Mapleton, otherwise Percy Lefroy Mapleton, and contained a specimen of his handwriting.

Two days afterwards Lefroy was arrested. In the name of Park he had taken lodgings in Smith Street, Stepney, and, describing himself as an engraver who required the utmost quietude, had kept the window-blind down. The announcement that "the coroner's verdict attaches a serious responsibility to anybody who conceals the accused," or the tempting reward, induced some person to indicate his hiding-place. The detectives found him in the shadowed room. He had not thriven on murder and the withholding of himself from the sight of men. He was haggard, miserable, starving; for, after admitting that he was the man they sought, he said, "I am very hungry. I have not had anything to eat all day." On July 10 Lefroy was taken to Lewes Gaol. Travelling by train, he chatted nonchalantly with the inspectors, and smoked cigarettes till he got to Balcombe Tunnel; and then, like Mathias in "The Bells," he was demoralised by the recollection of his crime, and became too excited to smoke or speak. At Hayward's Heath, where he had to change trains, he received the sturdy execrations of the crowd, was bundled into a first-class compartment, and hidden by a drawn blind. Inspector Jarvis, giving evidence at the Lewes inquiry, said he found in the prisoner's

room a false moustache and whiskers, and some blood-stained garments. Lefroy voluntarily said to him, "I am glad you found me. I am sick of it. I should have given myself up in a day or two. I have regretted it ever since that I ran away."

At Cuckfield Police Court on July 15 Lefroy was charged with the murder. The evidence showed that he took a revolver out of pledge on the day the tragedy occurred, that he got a first-class ticket at London Bridge Station for the two o'clock express for Brighton, and that he told a railway clerk at the end of his journey the following yarn :—"When I got in at London Bridge there was an old man and a young man in the carriage. When I was going into a tunnel I saw a flash, and remembered no more till I got to the station." The question naturally arose, How did the old man and the young man manage to alight from the train? And it was admitted that it was quite possible for a person to get out of a train running at the rate of sixty miles an hour, but that he would hardly be able after such a dramatic exit to run away and hide himself. The assize trial lasted three days in the crowded court at Maidstone, the Attorney-General (Sir Henry James) prosecuting, the late Mr. Montagu Williams defending, and Lord Coleridge, the judge, acting upon the legal maxim, "Keep your mind quiet." But he summed up dead against the prisoner, saying that a mass of practical impossibilities must be believed before they could adopt Lefroy's story that the murder was committed by a third person.

What, he asked, are the proved facts? The prisoner and Mr. Gold were in the carriage. At Merstham four shots were heard. Four bullets have been found, or the marks of them. That was seventeen miles from London; and at twenty-five miles, at Horley, a struggle was seen going on in the carriage. The struggle would take some time. Mr. Gold was a powerful man; but there was a knife as well as a revolver, and he had fourteen wounds with a knife. The body was thrown out, probably with life still in it, at the entrance to Balcombe Tunnel, thirty-one miles from London, so that the struggle lasted for eight miles. That is an awful thing to contemplate, and what terrible incidents it must have given rise to! It reminds one of the "Haunted House" by Hood, the story of a victim at once caged and hunted. The struggle must have been long and protracted. It began with the firing of a revolver, with the wounding of Mr. Gold, and his assailant went on till he had succeeded in casting his victim out, still alive, still struggling, as was shown by the dreadful piece of evidence, the marks of blood-stained fingers on the footboard. Mr. Gold was wounded unto death and thrown out, and the train stopped at Preston Park with the prisoner alone in the carriage.

Ten minutes sufficed the jury to find the prisoner guilty, and with a deadly pallor on his face, and a strange muttering, he stood against the dock rail to receive sentence. Lord Coleridge, putting on the black cap, told him he had been found guilty on the clearest evidence of a ferocious murder, and then pronounced sentence. The convict, while the judge was speaking, regained confidence, was apparently unmoved at the mention of his doom, and said in a melodramatic tone, "The day will come when you will know that you have murdered me!" Robert Fisk, a hare-brained fellow, came forward to say that he was the murderer of Mr. Gold. Sympathisers with Lefroy—and it is amazing how easily sympathy is aroused for a murderer

nowadays — petitioned the Home Secretary for his respite; but the "unscrupulous schemer" who, in the hope of prolonging his life for a few days, confessed to a series of crimes, was hanged in Lewes Prison on November 29, and the revolver with which he had committed the murder, found among the grass on the line-side near Earlswood, was added to the Scotland Yard collection of the instruments used in the perpetration of crime.

The country, on June 18, 1875, rang indignantly with the name of Colonel Valentine Baker. On the previous day this gallant soldier, who was an officer in the 10th Hussars, and on the staff at Aldershot, a *beau sabreur* and the friend of those in high places, committed a gross outrage. He entered a first-class carriage at Liphook, on the London and South-Western Railway, and tried to make himself agreeable to a young lady, the only other occupant of the compartment. But not content with vivacious conversation, he asked her name and also for permission to write to her. She declined to give her name, and rejected his suggestion that she should receive his letters. But this military Don Juan was not abashed, and at last the young lady, half-mad with fear, found it necessary to endeavour to attract the guard's attention, but in vain. Then she uttered piercing shrieks, flung open the carriage door, sprang upon the footboard, and grasping the carriage handles, and with only slender and perilous foothold, travelled for five miles in imminent danger of death, and with

her brain in a wild tumult, striving to make the passengers hear her cries. At last she was rescued. There was no doubt as to the truth of her story. Colonel Valentine Baker was arrested, committed for trial by the Guildford magistrates, convicted at Croydon assizes, and sentenced by Mr. Justice Brett to a fine of £500 and twelve months' imprisonment. Colonel Baker was one of the smartest cavalry officers of his time, and a man who might have attained to much loftier command in our forces; but he wrecked a career full of promise by a moment's passion; and he had to quit the army, "Her Majesty having no further occasion for his services." A social outcast, he left England. Determined to regain his good name, he entered the service of the Sultan of Turkey, and greatly distinguished himself, particularly after the fall of Plevna. In Egypt, too, he had the opportunity of showing how brave he could be in the field. But he revealed the noblest courage in his daily purpose and duty. His private life was, henceforth, beyond reproach, and he did much towards the effacement of his dishonour.

At Tamworth Station, on the Midland Railway, in January, 1892, a worthless fellow enters a carriage in the guise of a local preacher, proceeds to cant about religion, and endeavours to tempt a woman to wrong. She struggles out of his grasp escapes from the compartment, and raps with her umbrella at the next window for help, but slips off the footboard, is found unconscious on the line, and

for weeks remains demented from the shock. But her reason returns. Her assailant is tried at the Staffordshire assizes. There is no doubt about his mock piety, his impurity, his guilt; and Mr. Justice Hawkins rigorously sees that justice is done, sentencing the man, whom he appropriately describes as "a sanctimonious hypocrite," to two years' imprisonment with hard labour, saying that it is most necessary that everyone who enters a railway carriage should be free from annoyance, and that women especially should be protected.

The assailant may, as we have already seen, be an aristocrat, like the man whose prosecution for assault caused some sensation in 1892. On the night of Easter Monday, while travelling on the London and Brighton Railway, he quitted a smoking compartment at Hayward's Heath, sauntered past the carriage in which a young lady was seated, and, just as the train was moving, entered the compartment of which she had been the only occupant. When the train was in motion he tried to engage her in conversation, and at last lost all self-control. The lady screamed, struggled, and finally reached the communication cord. The train pulled up at East Croydon, she complained to the guard, and continued her journey in another carriage to Victoria Station, where, after some maidenly hesitation, she decided to charge him. The defendant said, "Oh, this is a plant. It looks like a second Colonel Baker's case;" but as the case developed it was proved that the lady had no

thought of blackmail, and that the defendant had undoubtedly assaulted her. At the London County Sessions he pleaded guilty to a common assault, his excuse being that he was under the influence of drink when he misconducted himself. It is often said that in England there is one law for the rich and another for the poor; but at all events in this case justice was strictly impartial, for Sir P. Edlin, ignoring the prisoner's aristocratic lineage and the literary tradition of his race, sent him to gaol for six months with hard labour, and ordered him to pay the costs of the prosecution.

At this time the air was filled with stories of railway outrages. A dressmaker swore she had been thrown out of a train by a tall, dark man near Armley Station. Another woman complained that while travelling between Sheffield and Retford a man endeavoured to outrage her; but, alarmed at her struggles to reach the communication cord, scrambled upon the footboard and disappeared. The story from Leeds proved to be the outcome of hysteria or a vivid imagination. But the case on the Brighton line raised a loud outcry. Under pressure of it the directors reserved compartments on every train "for ladies only." Mr. Ernest Spencer, rising in his place in Parliament, asked the President of the Board of Trade whether he would take steps to provide all classes of trains with compartments for the exclusive use of women, and also with means of communication with the guard. Sir Michael Hicks-

Beach replied to his question with a polite snub, saying he was not aware of general necessity existing for such legislation; in fact, accommodation of the kind desired was provided by nearly every railway company, but seldom used.

Nevertheless, on every side there was indignant demand for separate compartments—separate compartments for ladies, for babies, and even for dogs. Men, as well as women, had their champions; and one experienced traveller, declaring that a man rarely offended against modesty unless encouraged to do so, gave this sensible advice to gentlemen travelling alone: "Select an apartment already occupied by at least two or three passengers, and do not search the whole length of a train for an empty carriage, as I so frequently see gentlemen doing, in the mistaken idea of safety. A particular sort of women invariably select either a smoking compartment, or a compartment where an unprotected man may be alone; and the male traveller must remember that no twelve men, honest and true, will believe the word of a man against the word of a fairly good-looking woman."

"It's really not safe for any lady to travel alone," said a female passenger in the writer's hearing at King's Cross, as she struggled with a copy of Mr. Gladstone's pamphlet on Women's Suffrage, a tangled woollen wrap, a long twine-knotted bag, and a lap-dog. "You must lock me up, porter," she said to the railway servant, as she stalked into the compartment, and turned her angular form and somewhat soured face

towards him. He locked her up obediently; but there was a smile on his rugged features as he sauntered along the platform. "The old lady," he told the lampman, with a grin, "was frightened of being assaulted. She said she hated the sight of a man; and wouldn't let me go in the compartment to fix her bundles. I expect she'll be stopping the train to get a separate compartment for the lap dog."

The fear and abhorrence of men expressed by timid and strong-minded women on railway platforms are mere gentle protests compared with the remarkable outbursts of indignation in print. Women drive tram-cars and locomotives in America. It was suggested that in this country they should "man" the entire railway system. One female thought that "when the equal citizenship of women was recognised by the possession of the parliamentary vote, they would be able to bring railway manners and customs up to date," and contended that there ought to be women officials on all our lines. Her estimate of man was absolutely withering. While travelling between Altrincham and Manchester one of these creatures dared to enter the ladies' compartment; but she "got him hauled out bodily with ignominy."

There is no crime more heinous than the railway outrage; and the debased wretch who attempts to assault a defenceless girl should be flogged as well as imprisoned. But, at the same time, it is only fair to remember in the midst of the feminine scream that

there are still some gentlemen left in England, true gentlemen though they may be in fustian and broadcloth, whose demeanour to women in trains is courteous, considerate, and even chivalrous.

CHAPTER XXVI.

MORE INCIDENTS OF THE LINE.

Mr. Gladstone's Speeches on Tour—Political Scenes at Railway Stations—Mr. Balfour's Dislike to Carriage-Window Oratory—Sir William Harcourt's Novel Experience—The Interminable Scotchman at Lockerbie—A Crowd and a Return Fare—Stopping the Express—The Vanished Passenger—Where's your Ticket?—The Light Luggage-Rack—The Crushed Hat—Peculiar Effect of Train Jolting—Bewildered at Trent—Juvenile Travellers and their Comments—An Awkward Fix—A Whimsical Search—The Terrible Highlander—Travelling Adventures—The Girl Passenger in Male Attire—Alighting from Trains—An Exciting Exit—How the Old Lady Got Out—Escaping from a Maniac—Queer Visitors to Signalmen—Mad Engine-Drivers.

Mr. Gladstone set the fashion of making speeches out of railway-carriage windows to enthusiastic political supporters crowding the stations on his tour. In the South, East, and West of England he has made rhetorical progress of this kind, but he has been chiefly distinguished for these travelling utterances on his way to Midlothian. There have been some strange scenes at the various stopping-places on the West Coast route during Mr. Gladstone's journeys; and railway officials have not been without anxiety lest some politician or pressman, indiscreet with zeal, should be ground under the carriage wheels. The eager crowds, catching sight of the venerable statesman's face, deeply furrowed with thought and age, never seemed to think of the peril of the platform edge. Everybody desired to gaze upon him, to shake hands with him, to thrust flowers and

fruit upon him, and to offer him cigars, though he does not smoke, even while he was speaking to the local deputation in reply to their ardent address; and reporters were clinging to the carriage handles, trying desperately to take notes meanwhile.

Mr. A. J. Balfour, who succeeded the late Mr. W. H. Smith as Leader of the House of Commons in Lord Salisbury's administration, did not in the election campaign of July, 1892, put much faith in the efficacy of pouring political principles, in hurried words, out of railway carriage-windows, remarking at Huddersfield Station, in response to cries for a speech, "In other circumstances I should be very pleased indeed to address you, but neither in this nor in any other particular am I anxious to imitate the methods of a very distinguished statesman whose habitual methods of electioneering consist of inconveniencing the officials of the various railways over which he travels, and the public who desire to travel in the same train with him."

Sir William Harcourt, during the same campaign, was reminded of the imperative character of railway travelling. Journeying to Manchester to address a political meeting, he was presented at Stockport Station with an address, wishing him "God speed! on the eve of the greatest political struggle of our generation." But the engine-driver's working time-table allows no margin for political struggles, however vital to the nation; and Sir William Harcourt's speech was interrupted by the elbows and shoulders of the ticket-collectors, and before he could resume it, the guard

waved his flag, and the express went on its way, "Historicus"—or, as Lord Beaconsfield styled him in his novel "Endymion," "Hortensius"—smiling at the annihilation of his own oratory, and bowing in acknowledgment of the cheers of the people.

Mr. Gladstone, on one of his journeys north, had a similar experience at Carlisle; but no incident in his long experience of railway adventure outstrips in humour the whimsical scene that was witnessed at Lockerbie Junction on his journey to Midlothian in 1892. All along the line from Crewe he had been greeted with enthusiasm, and made many speeches. But at Lockerbie his eloquence was grotesquely frustrated. William Black, in one of his novels, gives an amusing description of the dismay of a grouse-shooting party delayed in a country house on the morning of "The Twelfth" by the inordinately long prayer of the Scotch pastor, and the quiet remark at the end of it, "We will now sing the 119th Psalm." The same type of man walked slowly upon the platform at Lockerbie, and when Mr. Gladstone arrived, gravely proceeded to read a long address of welcome. It was a thoughtful, sincere, appreciative address; but it completely swallowed the few precious moments of the train's stoppage. On the faces of Mr. Gladstone's supporters there were looks of annoyance and despair. The Liberal Chief, with the reporters grouped about him, stood at the window of the saloon carriage eager to reply. But they do things methodically at Lockerbie. "The reader of the address insisted on reciting its glowing and prolix periods;" and he had not got through it

when the guard blew his whistle, and Mr. Gladstone, with a bow and a smile, and "a twinkle in his eye," was borne away by the express without the opportunity of saying a single word.

Mrs. Gladstone, in May of the same year, was more fortunate than most people who, in their hurry, leave articles in railway carriages. Journeying to Hatchlands, she placed a pair of diamond earrings on the carriage seat. She quitted the train, and did not miss the trinkets till some hours afterwards. In the meantime the carriage had been swept. Search was made among the litter on the line, and the earrings were found. Mrs. Gladstone was so delighted that she gave a substantial subscription to the Railway Orphanage and a sovereign to the finder of the jewellery.

On some railways a good deal of latitude is allowed to the passenger. In the crush of getting back from the St. Leger, when the platform at Doncaster was jammed with a great crowd, with struggling forms and faces perspiring or pale with effort, I once scrambled into a Manchester, Sheffield and Lincolnshire train with a Midland return ticket. When I reached Sheffield the ticket-collector was very angry; and though I politely protested and talked wisely about the importance of an interchange of tickets between the two companies at such a busy time, I was obliged to pay the fare back. On writing to the Midland Company and pointing out how, through mishap, I did not use their train on the return journey, they sent me the return fare with a courteous note.

MR. GLADSTONE ADDRESSING A CROWD AT WEST CALDER STATION IN 1879.

The liberty I took was not so great as that indulged in by the passenger who got a ticket at York for Thirsk, and finding there was not a train immediately, travelled to Harrogate, and ultimately arrived at Thirsk by a roundabout way, nearly double the distance. The time-table, he argued with considerable ingenuity, showed a through train from York to Thirsk *viâ* Harrogate, and he had a right to go that way if he liked; but the North-Eastern Railway Company held that it was unjust that he should be wandering over their system at the price of the direct fare between the two places, and the judge, arriving at the same conclusion as the company, ordered the passenger to pay the excess fare with costs.

In another work—"Newspaper Reporting in Olden Time and To-Day"—I have given some idea of the journalist's zeal to get information on the railway. "He has been known to ride to the scene of the accident dressed like one of the breakdown gang; he has been seen at night to slide down a cutting-side at the imminent risk of breaking his neck, and alight almost on the funnel of the overturned engine; he has had the audacity to pull the communication-cord of the express at a wayside station, get out of the window on the off side of the slowing train, and while the engine-driver and guard have wondered what was amiss, started on his way up 'the six-foot' to the wrecked train." Since then the ordinary passenger has apparently developed a good deal of assurance. On August 20, 1892, "soon after the Margate down express, which left Charing

Cross at noon, had passed Ashford, where it does not stop, a gentleman in a first-class carriage pulled the communicator, and thus brought the train, which was going at express speed, to an abrupt stand. On the guard proceeding to the compartment the gentleman who had with him a little boy, coolly explained that he wished to alight at Ashford. Upon his giving his name and address he was suffered to depart. As he passed along nearly the entire length of the train leading the little boy by the hand, this cool person was greeted with a chorus of remonstrances from his indignant fellow-passengers, some of whom ironically desired to know whether they 'should wait till he returned.' "

A friend of mine, who had the misfortune to travel from Manchester to Euston by a parliamentary train in the days when the journey took over nine instead of four and a-quarter hours, was the astonished witness of a most extraordinary case of evading payment of fare. A woman, with a baby, and a youth got into the compartment at Crewe. The lad chatted to his mother about all sorts of topics to while away the time, and now knelt at one window and then another, pressing his nose against the glass, admiring the scenery, commenting on the live stock in the pastures, or breathing against the panes until the whole landscape was obliterated. The boy, his feet, and his voice were omnipresent in the compartment until the ticket-collector had his hand upon the door-handle—then he vanished. My friend was amazed. He looked round, rubbed his eyes; looked again. There was no boy to be seen. The woman's

face was innocent, impassive. She calmly gave up her ticket, and as the door banged to, whispered, "Johnny, come out!" The lad had hidden beneath his mother's petticoat!

Amid the rush of feet and the banging of doors there is the ring of the clipper and the collector's shout, "All tickets ready!" then, as he puts his head and shoulders into the compartment, the sharp query, "Tickets?" or the polite request, "Tickets, please!" The young lady opposite becomes almost sublime in her bewilderment. She searches the inside of her glove, her pocket, and her satchel. "Come, be quick; your ticket!" says the collector, losing patience. "I can't find it," she says hopelessly. "Where did you put it?" asks the collector in a rage. "In my purse," she says in despair. "Where's your purse?" he asks shortly. She searches for it with nervous despair; then suddenly recollecting, says, with a gasp, "It's in my box." "Where's your box?" he demands. "It's in the guard's van," she says desperately, flushing and perspiring piteously; and he steps backward on the platform scowling, and bangs the door, and goes away muttering.

It is disquieting if you are on your way to make an offer of marriage in a new suit and a silk hat of the latest fashion, to find as you take your seat in the crowded compartment that a rough, uncouth passenger, whose aggressive elbows and big hands and firmly-compressed lips indicate that he never submits to expostulation, has placed a tin trunk on the light luggage rack just above your head. While you are screwing up

your courage to request as a special favour that he will put the lemon-drop tin—a hideous substitute for the now almost obsolete but capacious and accommodating carpet bag—beneath the seat, the hard sharp-edged thing is overbalanced, and tumbles with a thud on your new hat, crushing much of the gloss and all the shape out of it, and forcing it so tightly on your head that the passengers, at first inclined towards sympathy, grin again as the owner of the tin box tries to drag the ruined hat off your bruised head, innocently remarking, "Ay, mester, it's made a nice mess on it. What a sight thah looks!"

The light rack has given accommodation to many a curious assortment of luggage since it was introduced into the railway carriage—hats, caps, bonnets, feeding-bottles, walking sticks, umbrellas, wraps, rugs, bird-cages, bayonets, rifles, fishing-rods, bait cans, cats, dogs, and, it is avowed, more than one sleeping infant placed there in bravado by a half-tipsy mother after an evening at the music-hall; but the thing on the light rack that requires the most zealous watchfulness is the heavy portmanteau. It belongs, as a rule, to a nervous passenger, who is always in fear of robbery, and would not dream of putting his property in the guard's van. It is nearly always double the width of the rack; and, after a clumsy wobble or lurch on the outer rail, generally crashes down on the passenger's head just as the train is making its first spurt out of the station. At Galashiels railway station not long ago a portmanteau,

thoughtlessly placed upon the rack in a compartment, fell upon the head of Mrs. Dun, an unlucky passenger who was sitting just beneath it, and she was so seriously hurt that she could appreciate the railway company's warning that "the use of this rack for heavy and bulky luggage involves risk of injury to passengers."

The passenger who considered a railway collision the best cure for rheumatism had more faith in the efficacy of railway travelling than the hop-picker who appeared at the Thames police court a short time back, and, to the amazement of the magistrate, solemnly remarked that "the jolting of the train had made her drunk," greatly to her surprise. The woman would have had more genuine cause for astonishment if she had travelled down to Trent. Sir Edmund Beckett, now Lord Grimthorpe, the great authority on clocks, historic and modern, has given an amusing description of the traveller's bewilderment there. "You arrive," he writes, "at Trent. Where that is I cannot tell. I suppose it is somewhere near the river Trent; but then the Trent is a very long river. You get out of your train to obtain refreshment, and having taken it, you endeavour to find your train and your carriage. But whether it is on this side or that, or whether it is going north or south, this way or that way, you cannot tell. Bewildered, you frantically rush to your carriage; the train moves off round a curve, and then you are horrified to see some red lights glaring

in front of you, and you are in immediate expectation of a collision, when your fellow-passenger calms your fear by telling you that they are only the tail lamps of your own train!"

A fond mamma, travelling with her three-year-old boy, may be astounded and gratified by his descriptive power and vivid imagination as on the train entering a tunnel, he exclaims, "Oh, ma! The train has shut its peepies;" or he may embarrass her as he alights at some foul-smelling station on the Metropolitan—having been taught that Hades is underground—by asking, "Mother, is this Hell Station?"

The hero of the following anecdote is not the only boy who has got into a fix on the railway: "A number of lads residing at Bedworth are in the habit of attending school at Coventry, and alight at Coundon Road Station. Not long ago they hit upon a novel plan of amusement. One of them mounted on the shoulders of two comrades, and got his head through the empty aperture for the lamp in the roof of the carriage. He surveyed the scenery with great inward satisfaction, but at Coundon Road he discovered—like many far wiser than he—that it is easier to get into a tight place than to get out of it. He was unable to withdraw his head, and when a porter entered the compartment and endeavoured to assist him by tugging at his legs he complained with no small alarm that he was in danger of strangulation. There was nothing for it but to send

on the young gentleman, with his right- and left-hand supporters, to the next station. Here the astonished officials uncoupled the carriage and ran it into a siding. A file and saw were secured, and after considerable trouble the lad was released."

Another remarkable story is told by a passenger who escaped uninjured from a serious railway smash in Suffolk. Seeing a fellow-traveller searching anxiously among the wreckage with a lantern he offered to assist in the search, and thinking the old man had lost his wife, asked in sympathetic tones, "What part of the train was she in?" Raising his lantern, and glaring at the kindly-disposed passenger, the old man shouted with indignant distinctness that triumphed over physical infirmity, "She, sir! She! I am looking for my teeth!"

It was some years ago my good fortune to attend the Scottish Athletic Sports in a Yorkshire town, and to see a giant from over the border wrestle with the strength of Cacus. But the most startling picture at the festival was the figure of a respectable local artist, who, in honour of his Scotch ancestry, had donned the Highland costume, and absolutely staggered his best friends with his wild appearance, with his flying tartan, and kilt, and bare legs. "Is he tame?" asked one of his friends in an audible whisper; and the Highland chieftain strode away scowling, no doubt with thought of dirk and bloodshed. But this story is mild enough compared with the dramatic incident at Perrache railway station, near

Lyons. "A person arrayed in full Highland costume suddenly entered a railway carriage and caused a terrible commotion. Two ladies who were in the compartment shrieked as they saw the awful spectacle presented by the entry into their compartment of a man without pantaloons. The Highlander, who was on his way to Nice, nevertheless took his seat with Caledonian coolness, whereupon the ladies screamed the louder. It was in vain that the apparition in the garb of old Gaul apologised and explained the situation in bad French, and equally futile were the efforts of the stationmaster, who assured the ladies that the gentleman with the dirk, the sporran, and the tartan accessories or properties was perfectly harmless. 'You don't run the shadow of a risk, mesdames, insisted the stationmaster in his blandest tones. 'The gentleman comes from a country where the men wear petticoats and do not wear trousers.' Despite everything, however, which was said in order to calm their apprehensions, the over-timid lady travellers had to be placed in a carriage at a safe distance from that in which the Caledonian had taken up his position."

It is awkward if one is unused to the coy and arbitrary ways of infants to find that the pleasant-faced young woman who has just got out at the busy station and disappeared in the crowd has left her baby in the compartment. Travelling by the night mail from Dublin to Cork, and thinking perhaps that at last the Irish are

within measurable distance of Home Rule, it is disquieting to discover that the big parcel on the opposite seat is dynamite. It is otherwise than enjoyable to journey with a passenger like Arthur Mayo, of Armley, who, riding through Cudworth, was confident that "three devils and Charles Peace were after him," and sprang out of the carriage window, only escaping death through the prompt action of his fellow-passengers, who seized him by the legs as he was leaping to the line, and held him, dangling head downwards, till the porters came. Nor is it soothing to one's nerves to travel on the railway with a powerful lunatic, who insists, drawing an "ugly clasp knife" meanwhile, that you should tell him the names of all the stations the train is passing, and so terrifies you that you escape from the compartment, creep along the footboard, and seek refuge in the guard's van. Not less terrifying to nervous travellers must have been the passenger who, on the 15th September, 1880, was sentenced to be flogged, and to twenty years' penal servitude, for a ferocious attack upon a fellow-traveller, whom he robbed, and tried to fling out of a railway carriage at Kensington.

These startling incidents of travel are hardly more dramatic than the experience of the commercial traveller journeying between Paris and Havre who was disturbed in his slumber by the pressure of a hand on his mouth, awoke startled to find that a man armed with a revolver was holding a handkerchief,

laden with chloroform, against his face, struggled to the alarm bell, and succeeded in getting the train stopped and the prisoner arrested. Nor can they compare in romance with Kate Evanson's freak on the Great Western Railway. Tired of her quiet home life at Reading, and with her mind filled with stories of travel, adventure, and exploit on land and sea, she determined to become a sailor, and had also a yearning to be wrecked, to be cast by some storm-tossed wave on an uninhabited island, to live a free roving life like Robinson Crusoe, far away from the torture of hairpins and the burden of school books. She left Reading ostensibly to return to school at Bristol, but when the train reached the latter place the young lady was missing. A bundle of girl's clothing was found in the compartment. The young lady had broken her journey at Gloucester, bought a ready-made suit of boy's clothes, and had her hair cut short. Then she took the train to Hereford, and while travelling alone in a compartment, changed her attire completely—transforming herself, so far as apparel went, from a girl to a boy. If let alone she might have become the most intrepid female explorer of the century; but she was traced to Shrewsbury by a common-sense brother, who considered it undesirable that she should masquerade either as errand lad or sailor, induced her to doff boy's attire and put on garments more suitable to her sex, and took her home again.

There are many modes of alighting from a train. The most sensible mode is to heed the warning, "Wait

till the train stops," and then step carefully upon the platform. But some passengers spring out of the carriage while the engine is slowing, and roll head over heels towards the booking-office or on the line; and I have seen a football team leap from a train and charge across the platform as if they were storming the Redan. One of the funniest exits in railway travel was made from an American sleeping car. A passenger told the train-boy, a negro, to call him at six in the morning, gave him a dollar to keep his memory awake, and said, "Never mind if I'm a bit drowsy; put me off the car." "Yes, boss," replied the negro, grinning; and the traveller went for a snug night in his berth. But the next morning he jumped out in a rage. The train-boy had forgotten to call him. He made his way to the negro fuming, and angrily asked, "Why the deuce didn't you put me off?" "I di——" jerked out the train-boy, and then abruptly checked his utterance. "Look yer here, boss," he said, utterly confounded, and staring out of "two lovely black eyes," blacker than Nature had given him, "who was it I did shove off?" He had mistaken the identity of the traveller who had tipped him, aroused the wrong man, and, after a fierce fight, flung him off the train!

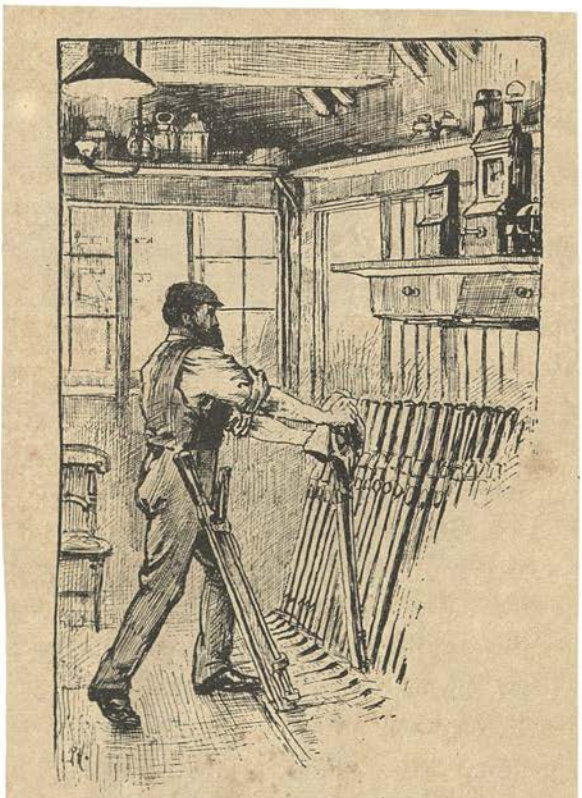
Humour of a quieter sort is afforded by a story in *Land and Water*, according to which an old lady travelling on the Underground, and finding that the train was approaching a station, addressed herself to a man in the farther corner of the compartment, her only fellow-passenger, and said, "Would you tell me, sir,

what is the next station?" "Bayswater, madam," was the courteous reply. "Then would you mind, sir, when we arrive, opening the door and helping me to get out?" "With pleasure," was the cordial assent. "You see," the old lady went on to explain, "I am well on in years and afflicted, and I have to get out slowly, and backwards; and when the porter sees me getting out he shouts, 'Look alive, ma'am,' and gives me a push from behind—and I've been round the circle twice already."

Comparatively few incidents in fiction can equal the reality of a young lady's experience on the London and North-Western Railway on August 27, 1887. Travelling between Wellington and Shrewsbury she was assaulted by a madman. In order to escape his fury she sprang from the compartment to the carriage footboard, and stood there in peril, the train running at the speed of thirty miles an hour. Her cries attracted the notice of a gentleman in the next carriage, and he succeeded in rescuing her, keeping her foe at bay meanwhile with a sword-stick, until the maniac fell upon the line, where he was afterwards found unconscious.

The country signalman in his box, bristling with gleaming levers, finds life rather monotonous, though he has to be careful with his bell signals and dials; but occasionally he has his blood quickened by adventure, and his usually steady pulse beats as quickly as the signal needles. His excitement may arise, too, from a cause entirely different from a railway smash. He may just have signalled, with two beats of the

needle to the right, "Line clear of train or engine," and be looking out mechanically into the darkness, when the door is thrust open, and a madman springs



A COUNTRY SIGNALMAN.

in. A signalman at Kirkham, on the Preston and Wyre Railway, was lately startled after this fashion. A wild-looking man ran up the steps, pranced into the cabin, and strove with subtlety and cunning to stay all night. But the lever-puller was a practical man. He

did not listen very long to the maniac's arguments; he grappled with him and flung him out of the box.

A signalman in the Humberston junction box had a curious experience one afternoon in 1891. While busy with a message he was interrupted by a mad woman. She sprang into the box, and began tearing the plants with which his glass-house was brightened. He tried to fling her out; but she was an Amazon, and nearly overpowered him. His cries brought several railway servants to his assistance, and the woman was removed, wildly threatening to cut the signalman's throat.

In the summer of the same year a curious scene was witnessed at Heywood railway station. A self-styled poet, indulging in strange gesticulations, leapt off the platform, and threw himself across the railway. He was dragged out of his perilous position by a railway porter, to whom he confided the information that he was "The Monarch of Europe," "The Successor of Oliver Cromwell," and "The Friend of George Washington."

A madman on a locomotive, with his hand on the regulator, is an even more dangerous person than a maniac in a signal cabin. Nearly six years ago the present writer, in a story entitled "A Night of Peril," described how a passenger in the north express, alarmed at the fearful speed of the train, crept along the footboard, climbed the tiny iron steps at the end of the van nearest the tender, crawled over the coal heap, and managed to reach

the footplate of the engine. He found the fireman had been strangled by the engine-driver, who had gone mad. The story sounded improbable enough; for an engine-driver, well-fed, and generally stout, good-tempered, and contented, seems an unlikely person to lose his reason—though he has been known during the severe winters of the past few years to lose his temper, driving the mail through the bitter night, with his feet and body almost scorched by the engine fire, and his face and ears frost-bitten and his beard and moustache snow-flecked and icy. As a rule, observant and practical, with mind concentrated on duty, the engine-driver, nevertheless, does occasionally go mad. Three years ago, a driver in the service of the London and North-Western Railway Company, was brought before the Salford magistrates under detention as a wandering lunatic. While driving an express from Chester to Manchester he showed symptoms of insanity, and the medical man who examined him said he would soon develop into a violent maniac.

The driver of a train on the Oregon Short Railway went raving mad on the 1st February, 1892, and gave the passengers, one hundred in number, one of the most dramatic journeys in railway history. He seized the fireman, and after a fierce struggle flung him off the engine. Then he fired up, took off the brake, and put on steam. The engine throbbed and swayed as it plunged wildly onward, and the terrified passengers were pitched off their

seats as the cars, lurching from side to side, threatened to leap off the track. It is said that for a distance of forty-five miles the locomotive, almost red-hot, ran at the rate of one hundred miles an hour; and Mr. Julius Smith, of Kansas City, one of the passengers, gives a vivid description of the flying train under the madman's erratic control. "After the train left Tacoma nothing unusual occurred," he says, "until that part of the line which leads along the base of the mountain was reached, when suddenly it was noticed that the train was increasing in speed until it fairly flew along the rails. Faster and faster went the train until it bounded from side to side at a fearful rate, and the frightened passengers were thrown about the cars. Several stations at which the train should have stopped were passed at lightning speed, and it seemed a miracle what kept it on the line. The passengers had now become panic-stricken, and women and children were screaming. The conductor and brakeman had been appealed to, and they said that either the engine-driver had gone mad or had lost control of the engine. They crawled carefully along the tender and saw that the fireman had disappeared, and from the strange appearance of the engineer, who was bare-headed and gesticulating, decided that he had become insane. They stealthily got behind him and struck him a heavy blow on the head, which felled him to the footplate. The conductor shut off the steam, and gradually brought the train to a

standstill. The driver was secured, and a despatch was sent over the road asking for information regarding the missing fireman, who was subsequently discovered, seriously injured, by the side of the rails."

In Spain life is not so rapid. The train does not start "till the stationmaster has done his coffee, the driver his flirting, and the guard has buckled on his sword;" and the driver has been known to pull up miles away from any station, "out of sheer curiosity."

CHAPTER XXVII.

SOME RAILWAY SURPRISES—SMOKING IN TRAINS—SUNDAY TRAVELLING.

Railway Surprises—A Special Train, and the Wreck of the *Cospatrick*—Kidnapping a Grand Duke—An Expensive Journey—Smoking in Railway Carriages—Implacable Enemies—Punishing a Foreigner—The Eton Boys and the Strong Pipe—A Very Rude Smoker—Passengers' Hatred of Tobacco—"No Smoking Allowed"—"Smoking" Labels in Tall Hats—Sunday Travelling—"The Agitator's Manual"—Longing for a Change—Wordsworth's Protest—Prejudice against Sunday Trains—A Sunday at Llandudno—A Sunday Afternoon Train from Nottingham to Bakewell—Breaking Heads and the Sabbath at Strome Ferry—Remission of the Sentence.

RAILWAY travelling and railway work are inseparable from surprises. The crank-axle of the "Jubilee" express engine breaks as the train leaves Highbridge, and the express is three hours late at Bristol. A passenger in the West Coast night mail, finding the train powerfully slowed at Penrith Junction, peers out of the window with concern, and later learns that four waggons block the up-line, and that the signalman has saved the mail from disaster by sending a man along the track waving a danger-signal. At St. Helens smoke is noticed beneath three carriages of the Wigan train, and it is found that the wooden brakes are on fire. There is consternation in the third-class carriage of an express travelling between Sheffield and Leeds, caused by an ominous bumping and a violent rocking. The carriage

floor is suddenly smashed to fragments, the frightened passengers jump on the seats, the communication cord is tugged and the train pulled up, when it is discovered that one of the steel tyres has become dislodged, has worked to the middle of the axle, and at each revolution was banging through the floor of the carriage.

A train from Leicester runs into Nuneaton Station on the North-Western; the brake does not act, or the rails are greasy, and the engine dashes into a carriage at the end of the platform, tumbling the passengers about in dismay. An excursion train is leaving Old Hill when the coupling links between two of the carriages snap, and part of the train starts down the incline towards Cradley Station. The brake has not strength enough to check its progress; but, fortunately, the guard is a man of resource. He leaps from his van, pushes baulks of timber between the wheels, and averts a serious accident. On the Cornish branch of the Great Western a heavy up-train gets out of control while descending the incline west of St. Germans Station. It rushes through the station and on to Nottar Viaduct, along which a down train is expected. The driver and the stoker of the runaway train, now under control again, open the brake-whistle, leap from the engine, and run up the line showing danger-signals; and though it is impossible to avoid a collision, there is comparatively little damage done. The Midland newspaper train from St. Pancras comes into collision with some overhead obstruction near

Strines, and when the express engine reaches Marple its funnel is missing. No passenger is hurt, but the funnel-less engine is an object of considerable curiosity as it runs into the Manchester Central Station. A fiendish attempt is made to wreck the London and North-Western express, like that near Wolverhampton in 1881. Some miscreant fastens a sleeper on the track by means of two chains. The train cuts the sleeper in two, and quivers from end to end on striking the obstruction, but fortunately keeps the rails.

The English mail, just starting from the Central Station, Glasgow, for London, has a narrow escape from destruction by fire. The signal "Right away!" has been given, when it is discovered that the gas-pipe in the sorting tender leaks, and the escaping gas, running to flame, sets the vehicle on fire. The mail bags are tumbled, amid much excitement, on to the platform, and the tender is shunted to the water-trough. The fire is soon put out, but the sorting tender is useless for the night; and the mails are flung into the guard's van, the train getting away twenty-five minutes late owing to this peculiar mishap, the first of its kind since the adoption of gas for train-lighting.

The incidents to the traveller and the mishaps to, and narrow escapes of, the rolling stock are infinite; but one of the most remarkable surprises on any railway occurred in 1886. The Irish Parliamentary party, before the memorable difference in their ranks, met in Dublin for important business. Mr. Parnell

did not attend; but it was explained that the then great but taciturn and mysterious leader "had been accidentally left by the train at Crewe!"

The railway, at first sight, seems to have little connection with the thrilling and pathetic incident on board the emigrant ship the *Cospatrick*, which was burned at sea, four hundred miles off the Cape, on the 19th November, 1874. No story of peril has ever equalled the grim fact of that wreck—more than four hundred passengers crowding the burning ship, the fire raging for two days, the fall of the mainmast dealing merciful death to many, the blowing up of the vessel's stern, the captain's leap into the sea hoping to save his wife's life, the two boats getting clear away, one only to founder, and the other to drift till some of its gaunt occupants died of hunger, or went mad with it, and sucked the blood of their comrades. Out of thirty persons in this starboard boat only five were alive on the 17th November, when the *British Sceptre*, homeward bound from Calcutta, fell in with the piteous crew and rescued them. Two of these five died on board the ship; and the other three, including the second mate Macdonald, were put ashore at St. Helena. The news of the wreck soon reached England, and thrilled the people; perhaps the more because it arrived on Christmas Day, when everybody that could was making merry. In the newspaper offices there was much shrewd thought and calculation with the object of getting the earliest intelligence; and

Archibald Forbes, the noted special correspondent in the Franco-German war and in the Russo-Turkish campaign for the *Daily News*, showed considerable dash and enterprise on behalf of the newspaper, going down the Channel in a special boat, boarding the steamer *Nyanza*, that was bringing the survivors of the wreck from St. Helena, obtaining from Macdonald a graphic account of the disaster, and taking both the narrator and the narrative up to town from Plymouth by special train, to the chagrin and disappointment of a number of rival pressmen who had been anxiously awaiting the vessel's arrival in port.

The Boulogne correspondent of the *Times* has told an amusing story of the capture of a Russian prince by an English railway company, so great was their eagerness to secure him as a passenger:

"An *impromptu* comedy took place in November, 1892, at Boulogne Harbour, where representatives of the London, Chatham and Dover and South-Eastern Companies sought to outwit each other in order to gain possession of the Grand Duke Sergius of Russia, who was awaited at Boulogne by rival steamers, to take him to England. The Grand Duke Sergius left Paris by the Folkestone express, to embark at Boulogne for Dover. Owing to some inconsistent order issued at headquarters a steamer of the Calais-Dover line was directed to proceed to Boulogne, and, instead of despatching a large steamer to meet the Queen's guest, the company's superintendent at Dover sent the *Maid of Kent*, their oldest vessel, which was launched in 1861. The South-Eastern Company, determined not to accept this affront, had, meanwhile, provided a special steamer of their own. On the arrival of the train, the company by a clever ruse succeeded in kidnapping the Prince, not even so exalted a traveller as a Russian Grand Duke being sacred on French soil from the enterprising officials of

competing English railways. Mr. H. Farmer and his son, the South-Eastern representatives, effected the capture of the Grand Duke, and he and his suite embarked on the *Albert Victor* amid some excitement. The English and Russian Vice-Consuls were present. Confusion followed when Captain Blomfield, the Chatham Company's agent, went aboard to persuade the Grand Duke that the other boat had been sent expressly by her Majesty. His Imperial Highness disembarked, and appeared somewhat puzzled by these manœuvres. Being informed that the Boulogne and Folkestone was the shorter and quicker route, and that the Queen's equerry with a special train was awaiting him at Folkestone, the Grand Duke decided to travel by the *Albert Victor*, which left immediately for that port."

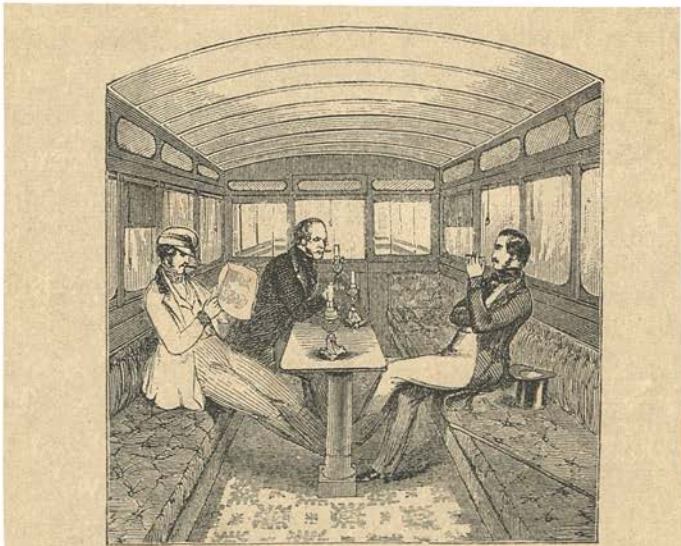
It is said that "a live collier is better than a dead cardinal;" but, judging from a curious incident that occurred at Leamington Station in January, 1892, a lifeless person is more profitable on the railway than one able to get his own ticket. A bath-chairman's widow, ignorant of railway rates and the cost of transit, gave instructions for the removal of her husband's corpse from Dover to Leamington. You can, as a rule, travel, if you are alive, for one penny per mile. On the Lough Swilly Railway, in Ireland, they are glad to take you for three farthings a mile, candidly admitting that if they raised the fares, the passengers, who find the days long, would prefer to walk. But if you are dead it is quite another thing—you cannot travel for less than one shilling per mile. The bath-chairman's widow discovered to her dismay that she was indebted to the railway company to the amount of £8 for the conveyance of her husband's mortal remains from Dover to

Leamington. It was impossible for the poor woman to find the money; so the corpse was detained for two days in the luggage department, but finally delivered by the company, on the widow's earnest promise to pay the carriage.

Smoking in railway carriages has been productive of annoyance, diversion, and some hard knocks. The subject is always with us, and is never discussed calmly. There are few people so contented and philosophical as the man in the smoke-filled compartment, who coughed out the words, "I never smoke now; but next to smoking I like the smell of it." Good manners often forsake smoker and non-smoker when cigar or pipe is produced in a railway carriage. The passenger longing for a whiff is in a condition of armed neutrality, or stoically stubborn, or violently aggressive. The hater of smoking makes no truce with his foe. He nails his colours to the mast of his own principle, and fights to his journey's end, and sometimes into the police court beyond, against the vile polluter of the atmosphere.

Legislation is powerless to stop the strife. As far back as 1868 a clause, to pacify smokers, was introduced into the Railway Regulation Bill, making it imperative on the part of the various companies to put a smoking carriage on every train "consisting of more than one carriage of each class;" and to appease the non-smokers every railway company, with watchful eyes for traffic, has adopted the by-law setting forth that any person smoking in shed or

covered platform of a station, or in any carriage or compartment not specially provided for that purpose, is liable to a penalty not exceeding forty shillings.

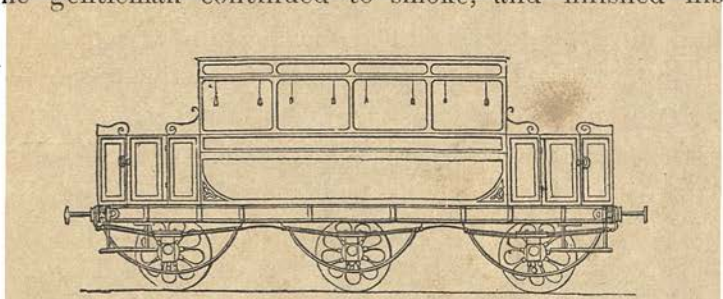


A SMOKING CARRIAGE ON THE EASTERN COUNTIES LINE IN 1846.

But the struggle still goes on. Like a Corsican feud, it is handed down from generation to generation, and it will continue, no doubt, till the crack of doom—till the earth is crashed up by a comet, or destroyed by fire and ends in smoke!

The stories and incidents that have sprung out of this fierce fight which defies all arbitration are legion. In the opinion of one of our bishops "the most self-satisfied Briton must own that we are in many details of railway travel far behind Germany." No doubt the foreign passenger who indulged in a

cigar while travelling between Brighton and London in September, 1842, held a similar view, and perhaps expressed it more emphatically. The guard, according to the *Mechanics' Magazine*, warned him that the practice of smoking was not allowed. Nevertheless, the gentleman continued to smoke, and finished his



EXTERIOR OF AN EASTERN COUNTIES SMOKING CARRIAGE OF 1846.

cigar. At the next station he was met by a demand for his ticket, ordered out of the *coupé*, and the guard, addressing one of the officers on the platform, warned him that "that person was not to be allowed to proceed to London by any train that night," and there the gentleman was left. This was sufficiently severe treatment; but even in those early days the companies were not without some sense of the desirability of making the travelling smoker comfortable, as may be inferred from the illustrations on this and the preceding page.

One of the best stories is that about the Eton boys crowding into a compartment and smoking cigarettes and all kinds of fancy tobaccos in supreme disdain of a quiet old man in the corner of the carriage, who asked them in vain to desist from smoking,

and then furtively brought a short black pipe out of his showman's vest pocket, and with his eyes filled with twinkles and his pipe well loaded with thick twist, insisted on the windows being put up, and blew such a potent, insidious cloud that the lads became strangely silent. He made them all ill with the strong fumes of the tobacco that seems to be the breath of life to the ironworker, the miner, and the navvy.

The prim old lady, sitting stiffly in the railway carriage, with mittens and reticule on knee and thick-rimmed spectacles—a relic of the optician's art of 1828—on her nose, must have been surprised when the rough-looking, but apparently courteous, man blundered into the compartment and said, "Marm, do you object to smoking?" and on the shrill reply, "Yes, indeed I do!" escaping from her lips, brusquely retorted, "Then shift!"

"A spinster" had a curious experience on the Macclesfield line some time ago. The train, a very long one, steamed into Longsight Station. "After running from one end to the other," she writes, "I found there was only one second-class compartment that was not labelled 'Smoking,' and that one was quite full. I was compelled to 'invade' a smoking compartment or stay behind. There were three gentlemen in the carriage; one was smoking. On entering the carriage I said, 'Gentlemen, I do not willingly intrude. I never before saw such a long train with so many smoking compartments (second-class), and only one second-class non-smoking com-

partment.' A quiet smile passed round the carriage, which at the moment I could not understand. I soon, however, had the riddle read. A few stations past Stockport the gentleman who was smoking folded up his rug and newspaper, and, amongst his other preparations for leaving the train, removed the red 'Smoking' label from the window, folded it carefully, and placed it inside the leather lining of his hat—for future use, I presume. I was anxious to know if this was a common occurrence, so when I reached home I examined my brother's business hat, and there, sure enough, I found *two* 'Smoking' labels. I asked him how he came to possess these official labels, and was answered by a sly wink, and 'Friends at court, my dear.' I said I thought it unfair, and gave as evidence of the unfairness my trouble at Long-sight that evening, and received for answer, 'Oh, all our fellows have them, and find them very handy.'"

The opposition to railway travelling on Sunday still lives. It has displayed intermittent vigour for half a century; and some bitter things have been said about the here and hereafter of those who dare to go from home, except to worship, on the Sabbath. The London and South-Western Railway, as already hinted at, were early confronted with the difficulty. In 1839 the directors received a memorial from the Winchester clergy, complaining of the systematic desecration of the Lord's Day by Sunday travelling, which "tended to corrupt morals." The chairman of the company, however, seems to have silenced the

protests of the clergy by the incontrovertible character of his reply. Railway companies, he said, were compelled by Parliament to run trains on Sunday for the convenience of the post-office; and he pointed out, moreover, that inasmuch as travelling by rail road had greatly reduced the amount of animal labour employed on highways, they were rather Sabbath upholders than Sabbath breakers, for it was an undoubted fact that train-running on Sunday had done away with much manual labour—that it had "reduced the quantity of human labour required for conducting the employment of horses"—not to speak of the horses themselves.

If the advice given in 1842 in "The Railway Sabbath Agitator's Manual" had been taken, the country would perhaps have been saved a good deal of controversy. This treatise on the suppression of Sunday travelling tersely remarked:

"It is much easier than may at first appear to establish an efficient agitation in any railway company. Let two gentlemen of principle and determination take at least as much stock as will afford to each of them a vote; let one of them give notice at the first meeting that takes place after his purchase that, at the next meeting, he will move, 'That no Sabbath traffic do take place on the railway.' Let him and his second be at their post on that occasion, and make their speeches—no matter how long or how short—calmly, resolutely, and with imperturbable good temper. The thing is done."

It is rather singular that in an age conspicuous for attempts to make Sunday more attractive by the opening of free libraries and museums, by the

provision of music in parks, and the birth of what is called the "Pleasant Sunday Afternoon" movement, there still survives a very strong feeling against Sunday travelling. London, unless you are in the religious, social, political, artistic, or dramatic swim, is a disheartening desert on the Sabbath. So is every large city in the north. Manchester has ventured to give a little variety to the day of public worship, formerly entirely devoted to psalm-chanting in cathedral and church, or to the dissenting minister's eloquence and the performances of the double-bass and the fiddle in chapel. The Reference Library, one of the finest in the kingdom, is now open to the student. The Art Gallery is free to the public. The toiler, if he wishes to worship God in the open air, can stroll in the parks, and in "The Whitworth" hear excellent music, too. But there are some people so constituted that they must go further away for change and happiness. They weary of bricks and mortar, of the hard pavement and the gleam of the tram-line. The place in which they have worked hard through the week grows repugnant. They yearn for a "Sunday at the seaside," or by river or lake, and get away to Cleethorpes, Blackpool, Southport, to the broad waters of the Mersey or the Dee, or to the Upper Ribble, where the stream murmurs among the moss-grown stones at Horton, or further away along the iron track to Windermere.

Our ideas about railways, and also about keeping the Sabbath, have altered somewhat since the day

William Wordsworth wrote his sonnet on the projected Kendal and Windermere Railway, asking—

> "Is there no nook of English ground secure
> From rash assault? Schemes of retirement sown
> In youth, and 'mid the busy world kept pure,
> As when their earliest flowers of hope were blown,
> Must perish—how can they this blight endure?"

and sent to the *Morning Post* his indignant letter of protest against the construction of the new line, in which he said:

"The directors of railway companies are always ready to devise or encourage entertainments for tempting the humbler classes to leave their homes. Accordingly, for the profit of the shareholders and of the lower class of innkeepers, we should have wrestling-matches, horse- and boat-races without number, and pothouses and beershops would keep pace with these excitements and recreations, most of which might too easily be had elsewhere. The injury which would thus be done to morals, both among this influx of strangers and the lower class of inhabitants, is obvious; and, supposing such extraordinary temptations not to be held out, there cannot be a doubt that the Sabbath day in the towns of Bowness and Ambleside, and other parts of the district, would be subject to much additional desecration."

Some worthy persons have been known to overwork their domestic servants, to sit down to a hot dinner, and to drive to church or chapel in brougham, cab, or hansom on the Sabbath; but they draw the line at the railway, and, with regard to the Sunday train, rigidly observe the commandment.

The Scotch people, in Scotland, appear to believe yet in the grave, dreary Sunday, with its monotony of long sermons and long faces, though they do not mortify themselves quite as much as their habit

was in Professor Blackie's youth. Frolic and whisky are not altogether unknown in the great cities on the Sabbath. Nevertheless, the people look askance at

LLANDUDNO STATION.

Sunday trains; and in some breasts lingers the old feeling expressed years ago at the Kirk Session in Edinburgh, when it was resolved not to accept any remuneration, however large, for the passing of the Edinburgh and Glasgow line through the churchyard, unless absolute security could be given that there would be no railway travelling on the Lord's day.

The London and North-Western Railway Company have rebuilt the station at Llandudno, and it

is now a bright-looking, spacious terminus, with four long platforms, two reserved for ordinary and two for excursion traffic, and capable of dealing with an enormous number of passengers, especially as beyond the station two miles of sidings have been put down. But on a Sunday the station is closed. The gates are locked. The place is deserted. In the town three or four thousand visitors, desiring a change from church-going, or from climbing the Great Orme, or from parading on the asphalt walk in front of the sea, are longing to get away by rail; but there is no train unless you walk to the junction three miles away. Trains may come up to the junction; but the line by Deganwy into Llandudno on a Sunday is sacred ground, and no train is allowed upon it, although occasionally some locomotive, wearied of standing still and doing nothing in the engine shed, breaks away from the junction, and comes down with a scream till it reaches the signal cabin; when it is suddenly struck with the consciousness that it is doing wrong, and runs back puffing and sighing with repentance.

In the summer of 1892 the writer was in Llandudno on a Sunday, but it was imperative that he should get away early on Monday. The friends with whom he was staying seldom travel, and had not realised the importance of the time-table. They thought he might get one at the chief hotel; but he could not, without an uncomfortable conscience, break the law by entering a Welsh hotel on a Sunday. He went to the station

instead. It was shut up, and the façade of the building was entirely devoid of railway literature—there was not a solitary placard showing the train-time. Three men stood near the gates, with their hands deep down in their pockets and their minds deeply buried in reflection. He asked one of the men, who had a railway-employee look about him, if he happened to know what time the first train went out for Manchester in the morning. The man started, stuttered, and said something vehemently in Welsh. Perhaps he was in a rage. Anyhow, he jerked out volleys of strange words that sounded like curses; and his interrogator thanked him and wandered, crestfallen and perplexed, to the parade. There fortune favoured him—he obtained the information he required without a breach of the law. On one of the grass-plots that skirt the promenade roadway he found a blackboard bearing a sheet time-table, and stepping over the rails, studied it to his heart's content, ascertained the time of the train's departure in English, and was happy; still, it seemed odd that the railway company had not had the forethought to fix a few of these sheets on the outer walls of the station.

Railway companies have really no particular scruples about running Sunday trains. All the great English companies have for years past sent two or three trains crawling over the country on the Sabbath—trains that stopped at every station, and jogged along, as it seemed, haphazard, the drivers apparently indifferent as to whether they reached their

destination that day or the next. Recently, with the steady demand for travelling facilities on Sunday, fast trains have been put on here and there for ordinary traffic, and trains more or less fast for excursionists. But these innovations have to be made cautiously. The week-end ticket has become an institution. You can go almost anywhere with it cheaply, and indulge in as much enjoyment as possible from Saturday to Monday. But many people look glum if you talk about taking a railway journey on Sunday. They view such a journey as a desecration, and are certain that evil will come of it—that "there's sure to be an accident;" and if one does happen, that "it's a judgment." Railway managers are between two stools. They do not like to refuse traffic on Sunday; and they are anxious not to offend the good people who, whatever their objection to Sunday travel, make frequent use of the railways during the remainder of the week.

It has been said that railway managers firmly believe "that Providence, though disapproving of railway services on the Sabbath, may yet be mollified if those trains are worked so as to be of as little use to the passengers as possible." Probably this conviction prompts them to run Sunday trains early in the morning, when most people are in bed, or late in the afternoon, when everybody is at dinner or indulging in his after-dinner nap. There is little doubt that ultimately a thoroughly good service of Sunday trains will be instituted on all the important

lines. The convenience to the public would be great. The increased revenue to the companies would be enormous. The railway servants would suffer no hardship, for the men on Sunday duty might be easily relieved on Monday or some other week-day. The London and North-Western, the Great Western, and several other companies, have already recognised the principle that a working week consists of six days, and pay extra for Sunday work. With their rolling stock no longer idle on Sunday, and the help of a relief staff, they could give the men one clear day's holiday in the week instead.

It does not follow that because a man travels on Sunday he flings away his chances of salvation; nay, the author is told that an English bishop has been seen in a train on Sunday, and that his lordship appeared unconscious of the fact that he was committing a grievous sin. The outcry about Sunday travelling is a little inconsistent. The people most strongly opposed to it do not seem to think Sunday labour in another direction reprehensible and wicked. It is the boast of one of our judges that he never reads the newspapers; but prelate, clergyman, Nonconformist minister, and church member open the daily paper on Monday morning with interest. They do not avoid it with loathing. Yet is it the product of Sunday thought and of hard, unremitting work. The reporter has to be busy taking down sermons, or speeches at labour, socialistic, or other meetings. The sub-editor finds "Sunday duty" the

severest duty of all the week, for he has to deal with two days' news instead of one, and the mass of intelligence he has to glance through and prepare for the printers, or reject, would dishearten a Prime Minister, though his despatch-bag is sometimes very heavy. The editorial staff must be at the office, either choosing subjects, or reading up, or writing leaders. The composing-room is crowded with compositors; and for hours there is the noise of engine and type-setting machine.

A daily newspaper office on a Sunday night, with its rush of work, is a very different place from a cathedral, with its holy calm and sweet music. There is apparently a very wide gulf between them; yet it is possible that the bishop, in his lawn sleeves, holding forth in the pulpit yonder on the duty of the people to observe the Sabbath as a day of worship and rest, is really making Sunday work for the newspapers. What he says—particularly if he is a popular bishop, like the late Bishop Fraser—is being reported, and will be set up in type that night—Sunday night. The newspaper is not rattled off the machines perhaps till after midnight; but every reader of it, amid the mingled aroma of printers' ink and buttered toast at breakfast, has, however devout, insisted on Sunday work, and Sunday work on the railway, too; for a good deal of the news the paper contains has been sent by train in news-parcel on Sunday, and before midnight the fireman has to be on duty at the shed to charge and light the engine fire, to get up steam,

so that the locomotive—of which he affectionately speaks as "she"—may be ready to dash along the line north, south, east, or west with the newspaper train.

Though the tendency of the age may be to make Sunday a day of enjoyment as well as a day of rest, quite a modern effort has been made to keep the day rigidly holy in Derbyshire, magistrates, clergy, and ministers conspiring to prevent town workers from getting a glimpse of the picturesque country on that day. The Midland Railway Company announced in the spring of 1892 that they intended to run a train every Sunday afternoon during May from Nottingham to Bakewell, calling at all the intermediate stations. There were protests alike from the bench and the pulpit, from residents and visitors, especially in the Matlock locality; and these protests were embodied in a petition, which, to say the least, was somewhat uncharitable in its tone:

"We respectfully beg to point out that this is a new, and in our opinion very undesirable, development in the railway service, and we beg to protest earnestly against it as being certain to become a source of great discomfort and disorder in the place, and to lead to great irregularities and desecration of the Sabbath, on the ground that it is extremely probable that the excursionists will (in the main) be drawn from the lower classes in the towns, and the only places open to them when here will be the public-houses, and that during the hours when such houses are usually closed We therefore respectfully urge upon you to reconsider the proposed step, and not to disturb the quietude of our neighbourhood by affording facilities for its inundation by excursionists on Sundays.'

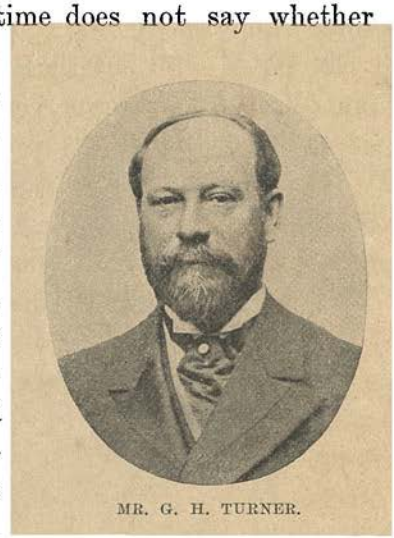
The train was run, notwithstanding this extensively and influentially-signed petition; and Mr. G. H. Turner, the general manager, politely, but firmly, replied to the memorialists as follows:

"The company do not see their way to withdraw the Sunday afternoon train from Nottingham and Derby to Matlock. There has been a general desire on the part of those employed in the towns named, who are precluded by the nature of their employment from visiting the Matlock district on week-days, to do so on Sundays. The train, however, is not in any sense an excursion train, as the ordinary fares are charged. It is evident, therefore, that there is a complete misapprehension on this point on the part of the memorialists, and that, judging from the experience of the running of the train on Sunday last, they are unnecessarily alarmed as to the results which are likely to follow."

A remarkable scene was witnessed at Strome Ferry, the western terminus of the Highland Railway, on June 3, 1883. The people were determined at all hazards that others besides themselves should keep the Sabbath day holy. The railway company proposed to send a load of fish by special train, so that the provender might reach Inverness to be taken on by the limited mail to town. But the Strome Ferry men had been brought up with a rigid faith in the Commandments. When the fishing-boats, with their "harvest of the sea," came inshore to unload, the villagers mustered, armed with clubs and sticks, and evidently meant business. They menaced the crews, and prevented the landing of the fish. Not only the police but the railway officials interfered; but the combined forces were overpowered by the indignant

coast-dwellers, who smote the Sabbath-breakers "hip and thigh," and took possession of the pier and the station.

The chronicler of the time does not say whether the crowd celebrated their victory by sounding the timbrel and by the playing of trumpets and shawms; but they prayed and sang in the railway station, and, to their credit, actually remembered the directors in their supplications. The fervent crowd "held the fort" till midnight, when traffic was resumed. Ten of the men, found guilty of mobbing and rioting, were sent to prison for four months each, and the period would no doubt have been longer, but that the judge gave due weight to the jury's recommendation that they should be dealt with mercifully "on account of their ignorance of the law, and the strong religious convictions they held against Sabbath desecration." The riot was the subject of questions in the House of Commons, and Sir William Harcourt, then Home Secretary, replied that if the men had really expressed their sincere regret for the offence into which they had been betrayed he would consult with the judge with a view to a remission of the sentence. He did



MR. G. H. TURNER.

consult with his lordship ; and on September 23rd, after undergoing fifty-six days' imprisonment each, the men were liberated from Calton Gaol, Edinburgh, and seven of them complied with the Home Secretary's condition that they should quit the city immediately they were released.

CHAPTER XXVIII.

EXCURSIONS.

A Vehicle of Erratic Ways—Two Remarkable Excursions—Trips in Cattle-Trucks in France—Excursions in and out of London—Crowding to Epping Forest—Bank Holiday—The Lancashire Excursionists' Paradise—Blackpool in "the Season"—Warehouse Manchester and its Annual Holiday—How Cotton Operatives Enjoy Themselves—"Going-Away" Clubs—Enormous Sums spent in Recreation—The Tourist Invasion of the Isle of Man—What it has done for Douglas—The Holiday Disaster at Hampstead—Delayed Excursionists and their Pastimes.

THE excursion train practically got a recognised place on the line in 1851, the year in which the country was freed from the "barbarous tax on light and air," and in which, in the Great Exhibition, "all the nations of the civilised world were represented in one fair temple of industry and peace." The excursion train has become the people's coach, friend, and servant. Its ways sometimes are erratic; but it endeavours to oblige everybody. It is out all day and up all night. Like the press, "it never sleeps," though it gets very drowsy with long travelling, and now and then shows a tendency to indulge in unaccountable rests. It starts at midnight—even on such a midnight as that of Easter Sunday, 1892, when snow fell, and the east wind cut like a knife—on a holiday jaunt to Weymouth, or to town, or to Edinburgh. It has, like the rakes of Congreve's

time, a weakness for the small hours, and often sees the sun rise.

It starts at dawn from factory town or big city, and leisurely puffs its way to the seaside, conveying a crowd of passengers, who are fortified with prodigious supplies of food and drink in baskets and bottles—people with bulging pockets and aggressive voices. It takes the eager traveller everywhere—to boatrace, horserace, coursing meeting; to cricket-match and football-match; to volunteer review and to the nearest port for naval manœuvre; to concert, opera, and pantomime; to the Lord Mayor's Show, and to Smithfield Cattle Show, and to exhibitions of all kinds.

The Cunard Company have now the distinction of owning, in their new liner, the *Campania*, the largest ship in the world; Messrs. Bass, Ratcliffe, and Gretton, brewers, of Burton-on-Trent, have the distinction of sending out the largest excursion in the world. In 1892 the firm took their workpeople to Blackpool, for the annual trip, in fourteen trains. The entertainments and piers were free to the excursionists, and for those who cared to venture upon the water two steamers were provided. But a more remarkable excursion still, having its origin in America, was made in Europe in the same year. "A train, unique of its kind, started from Havre for a tour of one hundred and fourteen days through Europe, conveying about fifty Americans, who, on landing at Havre from New York, commenced their railway journey to Marseilles, the Riviera, Rome, Naples,

Trieste, Pesth, Belgrade, Constantinople, Vienna, Munich, Berlin, Frankfort, Cologne, Amsterdam, The Hague, Rotterdam, Antwerp, Brussels, London, Windsor, and Paris. The *train de luxe* in which they started was run by the International Sleeping Car Company, which undertook to convey the excursionists from place to place, the travellers being relieved of all trouble with regard to tickets and hotel accommodation."

The locomotive is not always appreciated as it should be, and seldom gets a blessing; but at the opening of the Rouen and Havre Railway on March 20, 1847, it obtained this rare consideration. The first train which ran to Havre aroused remarkable interest. It conveyed one hundred privileged passengers, including some of the most noted engineers and railway men of the day. At Havre it was eagerly awaited by "the rank, fashion, and beauty" of the place, and welcomed with cheering and the music of drums and trumpets. Then, puffing possibly with embarrassment, the engine was surrounded by a striking group of clergy, State officials, national guardsmen, and spectators, and received the benediction from a high ecclesiastic.

Humour and fun are not, fortunately, inseparable from luxury; and the *Railway News* has been enabled to give the following story relating to another variety of excursion train, the antithesis of the *train de luxe:*

"During some cheap trips on the Paris-Havre Railway, many of the pleasure-seekers were put into a number of cattle cars, which

were quickly provided with seats made of boards set upon blocks of wood. No sooner did the ticket-taker enter to demand the passengers' tickets than he was greeted with a chorus of well-imitated 'moos!' and the joke extending itself to all the other cattle cars, he at last desisted from his attempt. At the next halting-station, the stationmaster began a remonstrance, but 'moo! moo! moo!' sounded so overpoweringly that he retired. At the terminus of Montvillier, the passengers, imitating the awkward leaps of cattle, sprang through the gate by which travelling beasts usually leave the station. The stationmaster caught one of them by the collar. This was the signal for the whole crowd to lower their heads and butt at him vigorously with terrible lowing, so that he was quickly obliged to take to his heels, followed by a final triumphant 'moo!' The whole company, who had joined without premeditation in the joke, then broke out into a peal of laughter, and giving their tickets to a smiling official standing by, peacefully left."

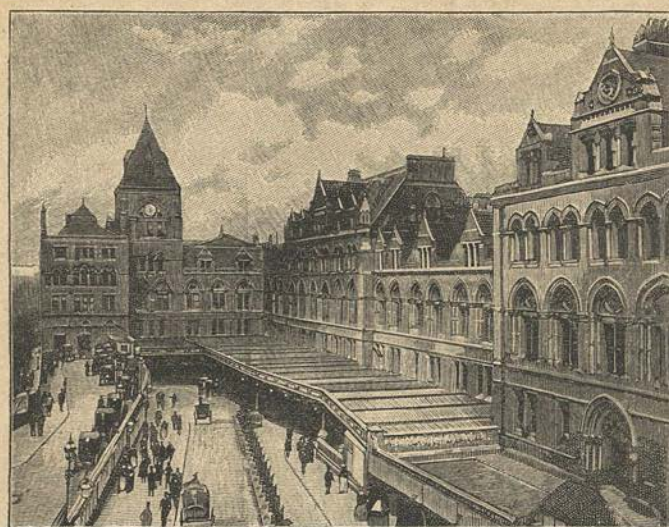
Excursion announcements are not always amusing, though the Manchester, Sheffield and Lincolnshire Company once issued placards giving particulars of a trip from the Midlands to the Isle of Man, in which it was intimated that passengers would be conveyed to their destination without change of carriage! But they indicate something beyond the mere times of starting and return—they give information also as to the rapid growth of the population, the mode of travel, the recreations of the people, and do their part, though it may be a humble one, in recording the history of the time. One learned from the notices during the Easter holidays of 1892, for instance, that the railway companies, though observing Good Friday as a Sunday with regard to ordinary trains, did not abandon the newspaper trains—the Great Western

BENEDICTION OF THE HAVRE AND ROUEN RAILWAY IN 1847.

sending out their newspaper train at 5.30 a.m. for Oxford, Exeter, and Swansea; and the Midland at 5.15 a.m. for Leicester, Nottingham, Derby, Sheffield, Leeds, Manchester, and Liverpool, in strict fulfilment of their contract; and wondered, perhaps, whether the daily newspaper proprietors of London really thought it worth while to send out the newspapers at all on Good Friday, when nearly every fireside and every business-place was deserted, and the paper-buying multitude were on their way at dawn to hill, woodland, and seashore.

One noticed also that the Great Western, temporarily forgetting their troubles with the broad gauge, ran cheap trains to the riverside stations, and right away to Penzance, duplicating their long-distance trains; that the London and North-Western Railway Company despatched special expresses and extended their trains, and by permission of the Postmaster-General attached a carriage to the postal express from Euston on Good Friday night for passengers from London to Dumfries; that on the North London trains ran every few minutes to and from Shoreditch for the Standard and Britannia theatres, which had day performances on Easter Monday, and every half-hour to Kew Bridge for Kew Gardens, and to Addison Road for "Venice in London" at Olympia, and from a dozen other stations to fêtes, galas, athletic sports, as well as to Highgate for Highgate Woods, and to Chingford for Epping Forest; that the Great Northern ran

trains to the seaside and to the cities of the north; that the Midland did likewise, but sent many more trains from the north to town; that the London and South-Western took passengers to a score of



LIVERPOOL STREET STATION.

pleasant haunts Devon way and also to the Isle of Wight; that the District Railway made up a specially early train which left Hammersmith for Victoria, Charing Cross, Blackfriars, and the Monument, for the convenience of passengers desiring to join the early excursion trains to the country; that the Great Eastern put people in touch with the Norfolk Broads, and the quaint Belgian cities across the water from Harwich; that the London, Chatham and Dover trains took them to the fair Kentish coast,

and started them on the road, at greatly reduced fares, for Brussels, with its sprightliness; for Paris, with its gaiety; for Rotterdam, with its spotlessly clean people and youthful smokers; and for Amsterdam, reflective and slow-moving.

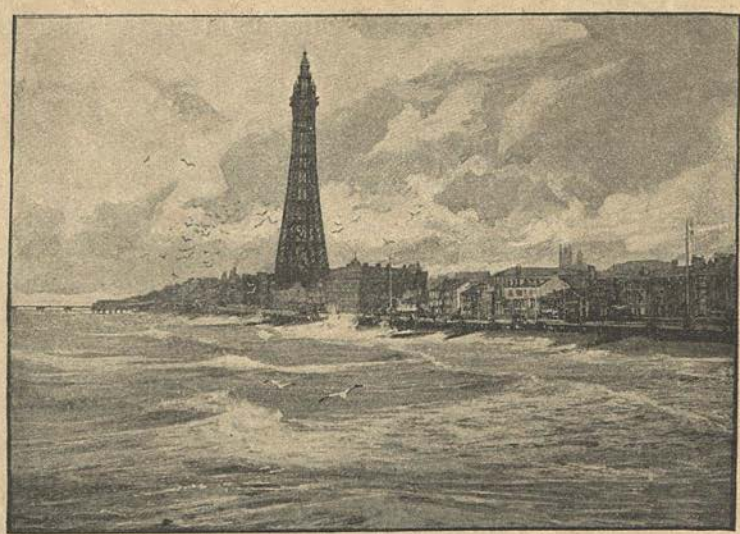
Bank Holiday, Sir John Lubbock's gift to the nation, kept for the first time on Whit Monday, 1871, has in little more than twenty years greatly fostered travel and little outings to the country-side. The *Times*, commenting on the London holiday traffic on Whit Monday, 1892, showed that the excursion tide was still increasing in volume:

"The scenery of our downs and woodlands is in its most attractive phase, and the reports from the stations indicate that more people than ever enjoyed a short country outing. The Great Eastern Railway, which holds the key to Epping Forest, is always among the most sensitive barometers of the London holiday-makers' movements. On Bank Holiday it carried 135,000 passengers from London stations to stations within twenty miles of London, and 5,000 more to Southend-on-Sea. If last year be taken as a standard, the increase is very striking, last year's total figures being only 34,000. That was an exceptionally cold and wretched season. The year 1890 was a very brilliant and busy Bank Holiday; the weather was fine, and the working classes prosperous. The total movement on the Great Eastern Railway was then 135,000, as against at least 140,000 on this year's Whitsuntide Bank Holiday; and no such figures as 135,000 had been recorded before, the nearest totals having been 127,000 and 120,000."

Blackpool is the paradise of the excursionist. A century ago it was a desolate-looking place with few houses, which were sprinkled on a flat, almost moorland coast; and the sea swept in lonely grandeur among the sandhills and tufted grass on the south

shore, where dwellings are now barricaded against the incoming tide, and gipsies have their swarthy colony and tell the fortunes of Lancashire operatives. Catherine Hutton, writing in 1788, gives a frank description of the health resort, mentioning its scattered habitations, the characteristics of its people, and the wintry blast which howled on three sides of the house in which she stayed. "Blackpool consists of a few houses, ranged in a line with the sea, and four of these are for the reception of company; one accommodating 30, one 60, one 80, and the other 100 persons. We were strangers to all, and on the recommendation of the master of the inn at Preston we drove to the house of 80, which is called the Lane's End. The company now consisted of about 70, and I never found myself in such a mob. The people sat down to table behind their knives and forks, to be ready for their dinner; while my father, my mother, and myself, who did not choose to scramble, stood behind, till someone, more considerate than the rest, made room for us. The general observations I have been enabled to make on the Lancastrians are that the Boltoners are sincere, good-humoured, and noisy; the Manchestrians reserved and purse-proud; the Liverpoolians free and open as the ocean on which they get their riches. I know little of the gentry, but I believe them to be generous, hospitable, and rather given to intemperance. All ranks and both sexes are more robust than the people of the south."

The population of Blackpool is now put down at 24,000; but these figures give really no idea of the enormous size of the place, or of its immense capacity



BLACKPOOL.

(From a Photograph by Poulton and Sons, Lee, S.E.)

to accommodate visitors. Its buildings are not so palatial as the mansions and hotels that line the King's Road and the Hove at Brighton, but it has quite as much extent of sea-front, more piers and places of amusement, great markets, and streets upon streets stretching away from Claremont Park right down to the limit of the south shore. The town has the electric light and an electric tramway, and asserts that it possesses "the finest promenade in England." It spends more than £1,000 a year in advertising its

attractions, and by means of pictorial posters at railway stations, thousands of handbills placed in return railway carriages, its foam-crested sea, and rough-and-ready

MARINE PARK, SOUTHPORT.

(*From a Photograph by Valentine and Sons, Dundee.*)

enjoyment, has made a famous name for itself. In fact, it has become the greatest holiday haunt in the world. The trippers surge out of the stations in thousands, and pack themselves with adroitness and good humour into the houses that front the beach, or that stand shoulder to shoulder in the heart of the town. A "public room" in one of these houses in August, when twenty or thirty Lancashire operatives or Yorkshire mill-hands are taking high tea, amid an incessant clatter of crockery, and cry of babies, and joyous shout, and joke, laughter, and profuse perspiration that must

remind some of them of steaming in weaving-sheds, is a sight not easily to be reconciled with our national reputation for sadness and taciturnity.

Southport, with its sands, marine lakes, gardens, and fine main street that reminds one of tree-shadowed thoroughfare in Paris or Brussels, also tempts many excursionists; and on Whit Monday no fewer than twenty thousand people from Manchester alone go down to the pleasant beach.

Manchester, in Whit-week, forgets its "commercial inclination to profit." The warehouses are closed. The merchant hardly heeds the price of spot cotton or the state of the yarn market. The city, in fact, acts on Shakespeare's advice, and seizes time by the forelock with shrewd eagerness. The warehouse staffs formerly took their vacations in the summer: and business, what with Easter, Whitsuntide, Bank and summer holidays, was apt to get disorganised. Now the warehousemen and clerks are expected to take their summer holidays at Whitsuntide; and though—except in such a year as 1893—they find the weather invariably cold and stormy, they try to comfort themselves with the fact that it is more bracing than in summer or autumn. A good deal of valuable time is thus saved. The city, for a week, practically puts up the shutters, partially suspends its foreign and home trade; but it springs into vigorous business life again with a clear board, with a long stretch of trade enterprise and steady effort before it until the end of the year, when it indulges in another long holiday.

The industrial portion of Lancashire, however, does not so keenly husband its time, or show so much nice calculation in its holiday-making. The operatives work hard and deftly in the mills; but they delight to break away from their toil, and they do this not only at the orthodox popular times, but at times peculiarly their own. They cling to the old-fashioned custom of celebrating feasts and wakes; but they are no longer content with the ancient modes of enjoyment at them—with wrestling, clog-dancing, swarming the greasy pole, and club-walking. In many of the Lancashire towns the operatives contribute, methodically, all the year round, to what are styled "going-away clubs." The mill-hand takes up one or more sixpenny shares in the club, and has a substantial sum to receive when the annual holiday or wakes come round. There are thrifty families that invest the whole or part of these savings in cotton-spinning companies, or co-operative societies, or real property; but the bulk of them feel bound to spend the money in enjoying themselves—in "going away." The mills are closed for a week, and the hands, with the pleasant ring of gold in their pockets, and feeling more like cotton lords than doublers and minders, buy fine raiment, and much food, and travel. In July, 1891, no fewer than thirty thousand excursionists left Burnley on this annual holiday for the seaside. In August, 1892, when the Oldham wakes were held, the mills and workshops were closed for a week, the enormous sum of £80,000—sufficient to build and fit a cotton mill—was paid out

to the operatives from the "going-away clubs," and thousands of hands went to Blackpool, Southport, the Isle of Man, and more distant resorts, gratifying every wish as freely in this their "crowded hour of glorious life" as if they possessed the wealth of Midas.

The tourist and excursion fever that now quickens the pulse of our national life has had, perhaps, the most marked effect on the Isle of Man. Railway enterprise in England, particularly on the part of the companies running into Liverpool, Fleetwood, and Barrow, has not only encouraged, but developed the steamboat traffic; and one crosses to Douglas by day trip, forenoon service, extra sailings, or night boat with as little thought or concern as if one were simply going to Seacombe or New Brighton. Douglas has been revolutionised by the money-spending invasion of the English people. The rapidly-expanding town, crowded with visitors, is losing every Manx characteristic. Ten or twelve years ago the waves gently swished against the back of quaint old Strand Street. The narrow thoroughfares had a Continental look, reminding one of the bouldered by-streets of Antwerp, and the still more ancient ways of Bruges; the lodgings were humble, but clean and cheap, and it was entertaining to have a landlady named "Quark" or "Corkish," and to listen wonderingly as she addressed you in the Celtic tongue. Since then Douglas has undergone a metamorphosis as great as that experienced by Cinderella. It is now a city by the sea, and its chief highway, the Loch promenade, is

almost as thronged with vehicles and pedestrians as Market Street in Manchester, or Lord Street in Liverpool.

The old Manx proverb, "When one man helps

THE QUAY AT DOUGLAS.
(*From a Photograph by Abel Lewis, Douglas.*)

another, God laughs," is seldom heard now on the quay. The crowd is too great; there is too much hurrying, struggling, and shouting for the effective quotation of proverbs. Besides, the proverb has become obsolete. It has been superseded by the more worldly doctrine, "Every man for himself." Douglas has lost its simplicity and its sentiment. It is for three months every year a crowded city, with a crowded city's instincts; and there is a good

deal of profit made out of its recreations and enjoyments. The mansions on its picturesque slope have been converted into great hotels; other large hotels stand shoulder to shoulder with the long line of boarding-houses on the sea-front, or climb up the steep streets that diverge from the parade; and away at the back of the main thoroughfare lodging-houses cluster thickly. There is a vast amount of accommodation, but in July and August it is taxed to the utmost. Nearly every house is crowded, the promenade is as thronged as the Strand, and at night the dancing halls on the heights, brilliant with electric light, are filled with people, who waltz or skip and jump impervious to fatigue, or watch with more or less interest the daring performances of music-hall athletes.

There is bathing at Port Skillion, boating in the bay, restful lounging on the wind-swept headland, pleasant excursions to Port Soderick, and delightful drives inland; but, after all, the enjoyments of Douglas are becoming more and more permeated with the flavour of city life. Some of the visitors never stir out of the town. They know nothing of healthful roving about Snaefel, or the quiet beauty of the heather-clad bay of Fleshwick, or the picturesque charm of Port Erin. They prefer the wide promenade, and always like to keep within measurable distance of a house with a licence. They spend a great deal of their time in eating, drinking, smoking, and at public entertainment. They get through a

large amount of money in a very small area; and it is not surprising that the Douglas bank deposits should increase, or that the island, unworried by income-tax, and with wealth poured freely into her hands, should be in a state of prosperity.

England, in 1892, was in the throes of a general election; but the political fight, intense and severe though it was, did not diminish the Manx traffic. The passengers who stepped on shore at Douglas exceeded by five thousand those who disembarked there in July of the preceding year, totalling 73,000, of which number 37,000 arrived from Liverpool, 12,000 from Fleetwood, and 5,000 from Barrow. In July, 1893, there was an apparent decrease in the number of passengers landing from the English and the Irish ports, the figures given being only 61,000; but these statistics reveal no decadence of attractiveness of Douglas.

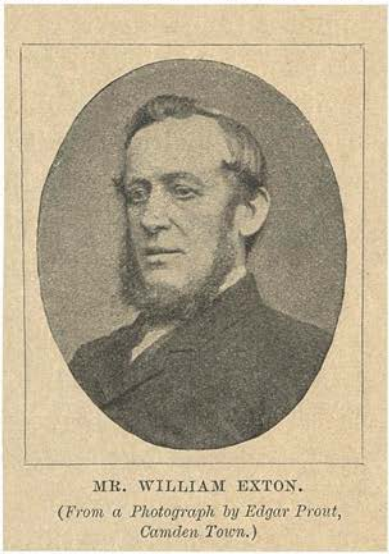
In 1892 the Saturday preceding the August Bank Holiday fell in July, and large arrivals on that day were included in the July figures. During the tourist three months of 1893 the island was by no means deserted. The arrivals at Douglas numbered 110,000, at Ramsay there were 6,000, and there were also many boat passengers to Peel. More than 120,000 visitors landed; and the bulk of these passengers must, of course, have been carried first by the railway to the English, the Scotch, or the Irish coast. The figures are remarkable, indicating as they do the modern desire for travel, change of scene, and healthy

enjoyment fostered by quicker and cheaper means of communication.

The Cheshire Lines advertise a day trip that would have astonished even William Clements if he had heard of it. He was appropriately described as the "Last of the Whips," and early in the century drove the famous coach "Tally Ho!" from London to Brighton. Neither broken axle, nor overturned vehicle, nor snowdrift, nor highwaymen perturbed him. But he got a little fidgety when the locomotive was born and began to show its paces. He grimly raced it for some years, but was obliged gravely to admit at last that the railway had "killed his coach." The calm, reflective life of the road had imbued him with fortitude; and he lived on, though his coach was dead. He reached the age of ninety-one, dying in 1891—with a very mean opinion of railways; but his contempt of them would probably have been greater still if he had known that the Cheshire Lines were prepared, by arrangement with the Isle of Man Steam Packet Company, to run passengers down by express to Liverpool, to take them across in the *Queen Victoria* or the *Prince of Wales* to Douglas, and bring them back again the same day to Manchester, for seven shillings.

The Great Western, during their broad-gauge days, with their wide line and great roomy carriages like family coaches, though less prone to break down, felt a quiet satisfaction because their system had never been held up to public comment by big accidents. It was,

in Sir Richard Moon's time, the boast too of the London and North-Western that they had never had a great disaster; but within the past few years the latter company have not been quite so fortunate, and the memory of Easter, 1892, is a sad one in many a family on account of the piteous disaster that occurred at Hampstead Heath Station. Thousands of holiday-makers had climbed the hill and roamed about the Heath—joyous, exuberant, light-hearted—a typical London crowd out on Bank Holiday, delighted with the consciousness that they were free for a few hours from the city's roar of traffic and incessant round of toil.



MR. WILLIAM EXTON.
(From a Photograph by Edgar Prout, Camden Town.)

It is remarkable that in our comprehensive climate, which includes so many varieties of wet and boisterous weather—from the drizzle to the blizzard—the English people have such a dread of rain. An Englishman will face the fiercest foe in war, but is put to flight by a shower. An Englishwoman, self-sacrificing, enduring, and sometimes even more courageous than an Englishman, becomes panic-stricken (if she has a new bonnet on) at the slightest rainfall. Clouds gathered this day on the Heath; rain and sleet fell; and the people,

among whom were many young children, surged towards the railway station. The platform was soon crowded, and the staircase leading down to it rapidly got into the same condition. The company were running trains every quarter of an hour to the City, with special trains in between; but this train movement was altogether inadequate to carry away the struggling multitude. The passengers on the edge of the platform, fearing lest they should fall beneath the passing trains, pushed backward, and the crowd behind, having no outlet, found themselves in the midst of a frightful crush. The station was of curious make. The ticket-collector's box, instead of being at the top, was at the bottom of the staircase, encroaching on the passage way, and near it was a pair of gates that opened inwards. Beyond these gates—which, according to the stationmaster's story, were open on the day of the disaster—a flight of thirty stairs led to the booking-office, and down these stairs the people hurried, until they were inextricably wedged into a dense mass, struggling and screaming for help.

Such was the crush that the back of the ticket-collector's box was smashed in, and some of the panes were shattered. A man's head was forced through the glass on the right hand side of the box, and he was powerless, with his throat just across the broken glass. "For God's sake, stand back; you will kill him!" cried Exton, the ticket-collector, trying in vain to push the excursionist's head away. On the other side of the ticket-box another man narrowly escaped having his

ear shaved off by the broken edges of the glass; and a boy had his head jammed between the box and the railings. This boy, tripping against one of the rail-foot projections on the staircase, fell against the box, others stumbled over him, and the pressure of the crowd, partly from the platform, but chiefly from behind, wrought the mischief. At the top of the staircase there were joke and frolic, and the refrain of the senseless song "Ta-ra-ra boom-de-ay." At the bottom of the staircase there were the cries and screams of an entangled mass of people. So fierce was the struggling that a child was dragged from its mother's arms, so fearful the crush that many women swooned, and one row of excursionists were pressed, as in a vice, till their faces became blue through lack of breath. When the peril was realised by those free to act, the work of rescue was prompt; but it was found that no fewer than eight persons—two women and six boys—had been crushed to death.

At the inquest one witness urged that the station should be rebuilt, saying that its capacity had not been extended for thirty years, though the population of Hampstead had in that time increased from 20,000 to 70,000. The stationmaster gave a striking idea of the growth in holiday traffic since Thomas Cook ran his first excursion train from Leicester to Loughborough, for he reckoned that 38,000 passengers had passed through that station alone on Bank Holiday. Great importance, on behalf of the railway company, was attached to the fact that on no previous occasion

had there been difficulty or accident in dealing with a great crowd; but Captain Fox, who, as an expert, condemned the station approach, the staircase projections, and particularly the situation of the ticket-collector's box, asserting that the whole staircase was twenty years behind its time, said it had been "a case of providence only."

HAMPSTEAD HEATH STATION: THE STAIRCASE WHERE THE CRUSH OCCURRED.

In the result the jury found that the ticket-box was placed in a most dangerous position, and further, that on the occasion in question the whole of the arrangements made by the company were totally insufficient to cope with the increased traffic on public holidays. And they expressed themselves as being of opinion that further general accommodation should be provided for the public at the station; that the ticket-box should be removed from the bottom of the staircase; that further and more complete arrangements should be made to regulate the traffic of passengers generally

to and from the platforms; and that an extra and separate exit should be at once provided.

The company, acting on the jury's recommendation and Major Marindin's suggestion, lost no time in removing the ticket-collector's box, in erecting an additional booking-office and waiting-hall, in making an additional platform and a new entrance to deal with "the large and increasing crowds that visit Hampstead Heath at stated periods of the year."

A remarkable scene, strangely contrasting with the foregoing one, was witnessed at Stepney some months ago. Owing to an accident at the junction, thousands of excursionists were delayed. Not only were the ordinary trains blocked, but there were nine Southend special trains stretching away behind the train that caused the accident. The passengers sat with patience in the carriages for some time, but, as hour after hour went by, and little progress was made, they swarmed out of the compartments, grouped themselves upon the station platforms, and "passed the time in singing and dancing."

Experience of excursion-train delay is not always so diverting. A passenger with whom the author is acquainted went, during the tourist season of 1893, on "a day trip" to a Welsh watering-place. The ticket permitted travel by the ordinary service; and the journey coastward by express was rapid and delightful; but the return ride was decidedly uncomfortable. The wag of the party said the railway company were trying the novel experiment of taking all their

passengers back in one train. Sundry carriages were added on the way; but they were soon crowded. At Chester a great throng of people sought seats in vain, and more coaches were attached. Even then there was a crush in every compartment; and the heat was so oppressive that men pulled off their coats, and women fanned themselves with books, newspapers, hats—anything that would disturb the still, sultry atmosphere. The American humorist's story about the long word that required a special train to reach the end of it, did not raise a laugh. The people were hot, thirsty, fatigued; besides, the train conveying them was far longer than any word fashioned by Yankee brain or even by Welshman's tongue. It was so long that it had to pull up twice at nearly every station; and, as though overcome by the heat itself, it travelled so wearily that it took more than five hours to do what is usually a two hours' journey. "Ah say, Tom; this 'as bin a settler! Ah'm as stiff as an owd camel," remarked an angry lady, gathering her children and baskets on the platform. "Thah can talk as thah likes; but thah'll get me on no more o' them excursions."

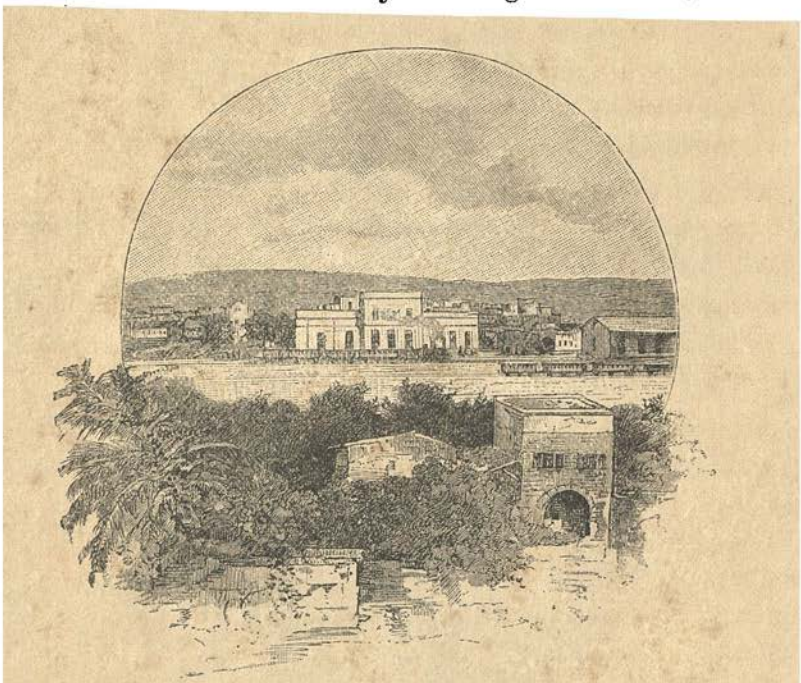
CHAPTER XXIX.

STRANGE TRACKS—RAILWAY STATION THRONG AND QUIET.

Railways in Remote Lands—Opening a Station at Jerusalem—A Railway in an Arsenal—The Line up Vesuvius—Running Down the Lickey—Whimsical and Miniature Railways—Life's Movement at the Railway Station—Notable Passengers—Railways and the Drama—What they do for Sport and Pastime—Animals Wild and Tame on the Line—Two famous Railway Dogs—A County Court in a Train—Some Lost Luggage—Mrs. Gamp at the Booking Office—Lifting a Railway Station—"The Station Master of Lone Prairie"—A Mystifying Notice to Passengers.

THERE are railways everywhere, through prairies, beneath mountains, over chasms, across seas, under rivers, and in strange lands that seemed very unlikely a few years ago to be dominated by steel rail and locomotive. The Chinaman runs, with his pigtail flying, to catch the train; the Maori, who once fought the English settler in New Zealand defile, now puts his knobstick peacefully under his arm, and takes a third-class ticket like a Christian. The American Indian does not go so frequently on the trail after scalps. He finds it easier to journey by train, and scarcely misses the savagery and poetry of his old life, with its hideous yell and crash of tomahawk, with its howl of wild beast, and rustle of grass, and whisper of wind in the forest. The Sepoy has become a railway passenger; so has the

Kaffir; and in a few years the strange tribes in Central Africa may be clamouring for thicker sun-shades to their railway carriage windows, and



THE STATION AT JAFFA.

grumbling at the fines for smoking in non-smoking compartments, or at the heavy railway rates for the transit of goods to and from Mombasa, or along other lines in the interior.

The navvy has even been busy in Palestine. Obedient to the modern spirit of trade enterprise, he has broken into hallowed ground with his pick. The sacred associations of the land do not perhaps

impress him much, for the Biblical education of the navvy has been neglected. But the intelligence that a line has been made from Haifa to Damascus was of intense interest to the devout, whether they liked the enterprise or not.

The slowly-moving caravan, the lurch and sway of the close-packed *diligence*, the patient plodding or erratic progress of the ass, are superseded. The rapid locomotion of the West is running towards the East. The opening of the Jaffa-Jerusalem Railway in the summer of 1892 was thus described:

"The Jerusalem terminus was dressed out with palm branches, and Turkish cavalry kept a way open for the railroad directors and their guests, and for the official representatives of the Sultan. The iron road was opened according to the Muslim rite. Three white sheep with gilded horns were dragged on to the rails, and there slaughtered after an Iman wearing a green turban had offered up a prayer. When the sheeps' veins were emptied the carcases were withdrawn by soldiers, and a locomotive advanced over the reddened spot, and the official world, the line being considered blest and free from the influence of evil genii, got into the compartments reserved for them. The other carriages were open to the public, which rushed into them. Three guns were next discharged, and the train started for Bitir, the first station outside Jerusalem."

Railway engineering, so daring and oblivious of old landmarks, has always had a whimsical vein. Dr. William Anderson, in a paper read before the Institute of Mechanical Engineers, has given an interesting description of what may be called a survival of the early railway. "There is," he says, "a railway still worked in the old way at this moment—that is to say,

the drivers have to get off the engines in order to set the points, and sometimes in order to apply the brakes. The railway has an aggregate length of nineteen miles, and it has thirty-seven locomotives which run at a pretty good speed. The locomotives and the rolling stock present a remarkable variety. The railway is at the Royal Arsenal, at Woolwich, and is an example of how traffic can go on without rules or time-tables. The locomotives are curiosities in their way. Nearly every form of light locomotive that has ever been devised for the 18-inch gauge and for the 4-ft. $8\frac{1}{2}$-inch gauge has a representative at the Royal Arsenal. The engines do their work very well; but it has at last been deemed advisable to appoint a traffic manager, draw up a time-table, and work the line according to some sort of rules."

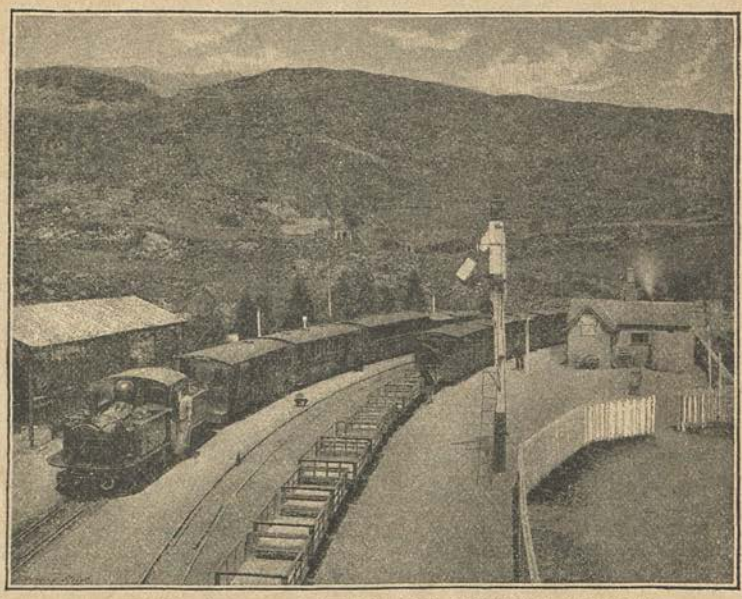
The Lickey incline on the Birmingham and Gloucester section of the Midland Railway is another curious survival. Brunel, the engineer, objected to such a steep descent, and suggested that the railway should be carried further west; but the erratic track was made, the urgent argument in favour of it being that it would more easily serve the populous places. The mountain railway over Mont Cenis includes some startling inclines, and the track which climbs up Pilatus, near Lucerne, has a gradient calculated to disturb the equanimity of the nervous passenger; while the railway up Vesuvius has not only an uncomfortably steep incline, but is disagreeably suggestive of the great fiery cauldron beneath, for a thick wall

has been built "to protect the line from possible flows of lava; and pillars of smoke frequently burst up from the ground close to the spot where the railway ends, and chasms open, swallowing up anything which may be on the spot." Travelling under these conditions is exciting, and would no doubt be pleasant to such passengers as the one once found hanging beneath a carriage of the Irish mail on its arrival at Chester — a traveller who considered it irksome to pay any fare, and preferred to ride from Holyhead clinging with his hands and legs to the brake-rod in imminent risk of his life along every yard of the ninety-mile run.

THE RAILWAY UP PILATUS.

Some railways up mountains may be termed merely fancy lines. They have not, like the Lickey, settled down to steady everyday work. The Lickey has proved far more useful than the old High Peak

Railway, though in its day this line, when life was slower and time did not always mean so much money, did a good deal of work both in the conveyance of



A STATION (TAN-Y-BWLCH) ON THE FESTINIOG RAILWAY.
(*From a Photograph by Frith & Co., Reigate.*)

passengers and the transit of goods. The Lickey incline has outlasted prejudice. It is not without a spice of danger; the cost of it in waste, inconvenience, and loss of time would have constructed a level line, and yielded a big profit, but the Lickey works on still. It is one of the steepest inclines to be found on an English through main line. Pilot engines are used to help trains up it, but they run down unassisted. The difficulty, of course, is not to make them go, but

to check them, to hold them back, and before now, when the rails have been in a slippery condition, heavy trains have been known to run a mile or more along the flat line at the bottom of the incline before they could be pulled up.

The miniature narrow-gauge railway, winding from Dinas to Rhyd-du, four miles from Beddgelert, is a line that has caused some diversion; and the terraced railway, the highest in Wales, between Bala and Festiniog, with a gauge of 1 ft. 11½ in., is almost impressive. Mr. George Newnes, M.P., and his co-proprietor, however, have the distinction of owning the steepest line in the world. Their track, which was opened on April 7, 1890, is only nine hundred feet long, but it serves a most useful purpose, connecting Lynton and Lynmouth, and effecting quick transit between the two places. The tiny railway, which has water for its motive power, cuts through a great cliff, and its rails, bolted to the solid rock, have an incline of 1 in 1¾. It is a curiosity in gradients; but does its work well, and has practically superseded the old cart-road down the slope, which reminded one of the Derbyshire sheriff's complaint about the highway leading to the Peak village—that it was "no use keeping a coach, for the town stood on one end." Mr. Newnes has also given play to his engineering hobby at Matlock, his native place; and in March, 1893, opened at the Bridge an ingeniously constructed cable tramway, which, fitted with garden-seat cars, is a great convenience

to visitors, and removes Defoe's quaint reproach, "This Matlock Bath would be much more frequented than it is if a bad stony road which leads to it, and no accommodation when you get there, did not hinder."

Cassell's "World of Wonders" describes a curious little railway, a model line, built by Mr. Percival Heywood in his grounds at Duffield Hall, in South Derbyshire:

"The object is a miniature railway, over and under ground, where an example of every engineering difficulty encountered in the construction of an ordinary railway system has been artificially created, so as to illustrate the working of this as completely as possible. In gauge the line is but 15 inches, and is laid partly with steel and partly with iron rails, of a rate varying from 9 lbs. to 12 lbs. per foot. In length it is little short of a mile, and has many curves. On the way there are the features of embankment, cutting, bridge, a viaduct 22 feet in height, a tunnel hewn out of solid rock, points, crossings, and lastly a number of picturesque stations, named according to the nature or position of the ground. Passengers may get out at the Tennis Lawn, the Wood, the Manor Copse, or other convenient stations, the first-named being the central one. Mr. Heywood is a skilled workman, and has accomplished the task of putting together the rolling stock without much aid."

A railway in East Frisia claims notoriety for diminutiveness:

"Its entire length is only five miles, and its breadth only $2\frac{1}{2}$ feet. It employs the huge staff of one guard, one engine-driver, one fireman, and only one platelayer. The sum of £4 10s. is paid in wages every week. It has two engines, three carriages, four trucks, and a couple of vans. The engine and the tender together only weigh seven tons. The fares are in proportion to the size of the company, and average threepence halfpenny 'all the way.'"

To the nervous and irritable a railway station is

an objectionable necessity, a place of torture, where there is not only the banging of boxes, the discourteous thrust of the crowd, the bumping and clattering of carriages, the shouts of porters, the blast of shunting horn, but the hideous yells and shrieks of the "steam devils," which the engine-drivers liberate no doubt with inward chuckles, while preserving their grave and serious mien whenever they pull up at, or start out of, a station. The English engine-driver is absolutely without nerves. They have been completely shaken out of him, and he apparently takes placid delight in the locomotive's shriek and in letting off steam; while the passengers cease their converse, quiver with nervous shock, put their hands to their ears, or hold on the tops of their heads.

But, apart from its incessant noises, there is something interesting in the station; or, rather, in the quickly-changing picture of human life it presents —the robustness, the feebleness, the pathos, the passion, the humour, the grief, the love, the hate, and the tragedy of it. Mr. Frith caught its earnestness and reality in his familiar picture "The Railway Station," which forms the frontispiece to Vol. I. of this work. The figures look gawky, and the garb antiquated and old-fashioned to modern eyes; but there is truth and fidelity in this remarkable representation of early railway travelling, and Henry Graves, the noted printseller, the friend of Turner, Constable, and Landseer, thought so highly of it that he bought the picture, with the copyright, for £20,000.

At every station there is some study of character. The stout, perspiring nurse, struggling with the new baby; the diffident, self-conscious honeymoon couple; the little group of quiet men, in shabby black, who make a business of death, and are lifting a coffin from the train. Here a girl is blushingly meeting her lover; there a husband his wife; and almost before the lad has got off the carriage step the mother is fondly embracing her son. Meanwhile, a business man calls a hansom and clatters away; a portly, glossy bishop crosses the platform with stately tread, and is escorted by his solicitous host, to a carriage; and a ragged thief, or poverty-stricken Ishmael, who has, in his sincere desire to economise the ticket-collector's time, travelled unobtrusively beneath the carriage seat, slides furtively from the compartment and is lost in the crowd.

That group of serious-faced men on the platform may include pilgrims on their way to some shrine, or missionaries destined for Uganda, or explorers bound for Somaliland or Thibet. Perhaps the slim, hardy, self-reliant man, in tough and warm apparel, standing reflectively near the bookstall yonder, is Dr. Nansen, the intrepid traveller, who, undismayed by the hardship and fate of Franklin, has taken his railway ticket for the first stage of his journey towards the grim sea of ice, which he has resolved shall give up the secret of the North-West passage. At the railway station you may get a glimpse of the Queen's face, and make acquaintance with her humblest

'subjects—the melancholy shoeblack, the versatile and persistent seller of wax lights, and the feckless wretch who has seen better days and is desperately bent, as he lurches or shambles by your side, on carrying

A LUGGAGE SCRAMBLE.

your bag or your parcel. You may rub shoulders with some great soldier who is arriving or departing amid the crash of music, or some great statesman who is welcomed with wild shout of victory in political fight, or some great actor, who as his company crowds about, is not bestowing a thought on fame, but wondering whether the twenty-four trucks laden with costumes and scenery, with dresses and armour, with stage castles and palaces and hovels, with sylvan landscape and rugged glen, will escape

the crush and ruin of collision, and reach the next town safely.

The railway has revolutionised the drama. The stock company is not only dead, but almost forgotten. In a provincial theatre some years ago, when a player uttered the line in Hamlet, "How came you hither?" he was startled by the reply, "Sum on us com bi t' coach, and sum on us bi t' train!" The incident, humorous in itself, was rudely indicative of the change that has been wrought by the railway in theatrical life. The actor, be he even Irving or Toole, has to pack himself up and go on tour. He travels by special train to play before the Queen; he quits town by train with almost as much baggage as an army, on his way to Liverpool, to star in the States; and when playing in his own land the railway carriage is his home, though not always a comfortable one, on Sunday. To the actor the railway is indispensable. It takes him swiftly through the country. It gives him quick opportunity of appealing to different masses of people with widely different sympathies; it takes him onward to fame and sometimes to fortune. Not only is it a trusty agent that enables him to keep his engagements; but it takes a good deal of trouble about the transit of his properties, be they dead crusaders or live lions. The author has on Saturday night at the theatre, in "Pepita," watched with some alarm the fierce charge of the live bull; and on Sunday morning, at the railway station, seen the animal, subdued and apparently docile, led to the

truck by a dainty member of the company, who must have been at least the "first walking gentleman" out that day.

The railway has also proved a great encourager of sport and pastime. It takes the stalker to the fringe of the deer forest, and the grouse-shooter to his moor; while, in the words of Anthony Trollope, the railway "has done so much for hunting that it may be said to have created the sport anew on a wider and more thoroughly organised footing than it ever held before." The cricketer, on his way to county engagement; the footballer, all striped like a zebra, as he hurries to the final; and the golf-player, as he journeys to his links—are all beholden to the railway.

These conspicuous figures in our myriad-sided civilisation give variety—sometimes, indeed, very boisterous variety—to the movement of life at the railway station; but hardly such exciting movement as that created at the up-country station in India when the stationmaster, in despair, telegraphed to the nearest official: "Tiger jumping about on platform—please arrange!" Wild beasts have occasionally caused embarrassment on English lines; but not so much perplexity as the late Frank Buckland's pets. "On one of his railway journeys his baggage included a monkey. Jacko was a stumbling-block to the man on duty at the booking-office, who carefully went through the schedule of charges for the carriage of animals. 'Cows is horses, and so is

donkeys,' he murmured. 'Cats is dogs, and fowls is likewise, and so is monkeys. Please, sir, that 'ere will 'ave to go as a dawg,' he said, not without lingering doubt, as he pointed to the monkey. 'Indeed,' said Buckland; and, putting his hand into the pocket of his coat, he pulled out a tortoise. 'What will that go as?' he asked. Once more the schedule was perused, but it gave no instruction as to the carriage of tortoises. 'They are nothing,' said the porter with scorn. 'We don't charge nothing for them. They are an insek.'

Another railway servant was unable to express such contempt for a giraffe. Responsible for the transit of the lofty animal from Liverpool to town, he managed to get it upstanding in a truck; but the stupid thing declined to lie down or even to be seated. He coaxed it, pleaded with it, and tried to leg it down, but in vain. The giraffe was hopelessly dense. It gave the man a stony stare, and continued its melancholy clatter on the truck floor. "What are tha struggling with, Jim?" asked the goods guard, with a winsome smile, as he walked by. "Well," replied the panting servant, "Buffin calls him a jaraff; but a'll call him a long-legged clattering fool; and a'll reckon tha'll have some strugglin' wi' him thisen when t' train gets t' first bridge. If tha doesn't tie his neck in a knot, he'll have his head knocked off!"

The railway horse, whether shunting or pulling dray, is, as a rule, well developed in body and shrewd

* "Our Iron Roads," by Frederick S. Williams.

after a fashion; but it does not rival the dog in the quality of its instinct, and has never yet acted as station-master. For many years a black-and-tan collie dog did duty practically as deputy stationmaster at Lowestoft, on the Great Eastern Railway. He had no need to study the working time-table. It is said that he knew the exact time at which a train should begin its journey, and a restless excitement characterised him as the moment drew near. As the bell uttered its first sound, he would scamper down the platform, and, planting himself close to the engine, bark furiously until the wheels began to move. Satisfied apparently in this respect, he would next make a move for the guard's van, and hurry the guard to his post. As the train passed out of the station he retired, and no more was seen of him till a similar operation had to be repeated on the departure of another train.

Another famous dog on the railway was "Help." The animal, which, after a very useful life, died in December, 1891, was indefatigable in asking for subscriptions. It pleaded down the line, at the congress of railway men, at any gathering that was likely to recognise zeal in philanthropic duty. "The dog was trained by John Climpson, who has been thirty-five years guard of the tidal train from London Bridge to Newhaven, and the idea was to get 'Help' to act as a medium for the collection of money in aid of the Orphan Fund of the Amalgamated Society of Railway Servants. It was the late Rev. Norman Macleod who, struck with the excellence of the object

for which the dog was to be trained, obtained a fine Scotch collie from Mr. W. Riddell, of Hailes, Haddington. The mission of 'Help' was made known by a silver collar, to which was appended a silver medal, having on it the following inscription:

"HELP," THE RAILWAY DOG.

"'I am "Help," the railway dog of England, and travelling agent for the orphans of railway men who are killed on duty. My office is at No. 65, Colebrooke Row, London, where subscriptions will be thankfully received and duly acknowledged.'

"At the Bristol Dog Show in 1884, 'Help' was presented with a silver medal, and his visit realised ten guineas. Altogether the faithful animal, which was very docile, was instrumental in obtaining upwards of £1,000 for the orphan fund."

The railway station has been used for many a novel purpose. It has been used as a barrack, as a coroner's

court, and as a county court. His honour, Judge Williams, County Court Judge of South Wales, had the distinction of converting a railway carriage into a civil court, of hearing a case in a compartment, and giving his decision at a railway station. He sat at Bridgend, and had before him an action in which the plaintiff claimed the sum of fifty pounds as compensation for damages caused by furious driving. When the time arrived for his honour to leave by train, the case was not finished—a most important witness had still to be examined. What was the judge to do? He could not well leave the action unfinished.

MR. JOHN CLIMPSON.

(From a Photo by Blagrove & Sons, Lewes.)

He did not wish to kick his heels (if such an irreverent remark may be applied to a judge) in Bridgend all night. There was a whispered conference. His honour rose from his seat and bowed to the court, and the court rose and bowed to his honour, who then doffed his wig and gown, and went, with such haste as the dignity of his appointment would permit, to the railway station. On the platform he was joined by the advocates representing the litigants, and also by the material witness. The train ran in. His honour, and the persons interested in the action, jumped into a compartment; and the guard had scarcely waved his arm, as a sign that all was clear for the train to start again, when the hearing of the action was

continued. The advocate for the defendant does not appear to have quoted any clause, section, or case showing that there was no precedent for turning a railway carriage into a travelling county court. The witness was examined and cross-examined while the train sped on its journey. At Llantrissant his honour and the court alighted; and the judge, sitting in the stationmaster's office, gave a verdict for the plaintiff.

The Lost Luggage Office at every station is really an epitome of human life—of forgetfulness and folly. It is the last desperate hope of thoughtless people who have left feeding-bottles, gloves, reticules, purses, dolls, pinafores, books, hats, or bagpipes in trains miles away. During the year 1889 alone the Railway Clearing House succeeded in returning to their owners no fewer than 600,000 articles found in railway carriages or on the line; but none of these things, which included an immense variety of articles for use or wear, was so extraordinary in character as the luggage left at Swindon Station some years ago, and completely forgotten by the owner—"a pair of bright bay carriage horses, sixteen hands high, with black switch manes and tails, sold to pay expenses!"

The railway station has been the scene of many a humorous incident, of which Mrs. Gamp's well-known experience was typical. The old lady would have been in a greater fluster, probably, if she had tried to get a ticket at Frodsham Station in August, 1892. Complaints had been made for some years of

inadequate platform accommodation, and finally it was decided to remove the stationmaster's house, booking-offices, and general waiting-room some six feet back.

FRODSHAM STATION IN COURSE OF REMOVAL.

(From a Photograph by R. W. Morris, Chester.)

In order to accomplish the task without taking down the structures, excavations were made beneath them until they were supported on large baulks of timber. Then came the crucial point, whether they would slide into their new situation. Eleven powerful jacks were

brought into operation under the superintendence of Mr. Johnson, the company's engineer. Although the mass to be moved weighed quite 400 tons, the work was successfully accomplished, save that a chimney-stack, which cracked, had to be taken down.

In England, though the country is said to be overcrowded, there are many lonely and almost weird stations; but none so queerly desolate as the one Bret Harte describes in his poem "The Station-Master of Lone Prairie:"—

"An empty bench, a sky of greyest etching,
A bare bleak shed in blackest silhouette,
Twelve yards of platform, and beyond them stretching
Twelve miles of prairie glimmering through the wet.

"Nothing beyond. Ah, yes! From out the station
A stiff, gaunt figure, thrown against the sky,
Beckoning me with some wooden salutation,
Caught from his signals as the train flashed by.

" . . . The spell of desolation
Broke with a trembling star the far-off cry.
The coming train! I glance around the station,
All is empty as the upper sky.

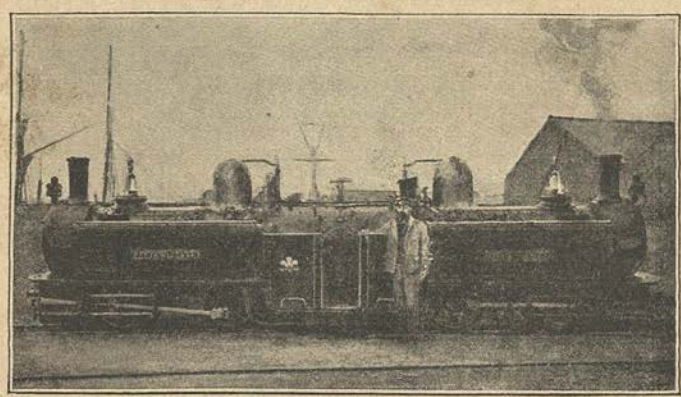
"Naught but myself—nor form nor figure waking
The long hushed level and stark shining waste—
Naught but myself, that cry, and the dull shaking
Of wheel and axle stopped in breathless haste.

"Now then—look sharp! Eh, what? The station-master?
Thar's none! we stopped here of our own accord.
The man got killed in the down train disaster
This time last evening. Right there! All aboard!"

America, which has produced much that is tragic in railway travel and disaster, is supposed to be the home of quaint humour; but it has not yet given us so whimsical a railway notice as that placed over the Welsh booking-office, and quoted in a newspaper of 1875:

"LIST OF BOOKING."

"You passengers must be careful. For have them level money for ticket, and to apply at once for asking tickets when will booking-window open. No tickets to have after departure of the train."



DOUBLE ENGINE USED ON THE FESTINIOG RAILWAY. (*Page* 105.)

(From a Photograph by Frith & Co., Reigate.)

CHAPTER XXX.

HUNGRY AND THIRSTY TRAVELLERS—THE REFRESHMENT-ROOM.

The Refreshment-Room—An Early Visit—Buffets at Big Stations—The Hungry Man at Mugby—Manners at the Post-Office—The Platform Boy—Passengers and their Appetites—Ten Minutes' Stop at Swindon—The Humour of It—A Singular Action at Law—Charging for a Special Train—A Splendid Digestion—The Surgeon and the Sausage Rolls—An Enticing Refreshment-Room—The Navvy at the "First-Class" Bar—The "Young Ladies" Behind the Counter—Their Duties, Hardships, and Prospects—The Railway Companies as Caterers—A Bishop's Church on Wheels—The Travelling Hotel.

THE refreshment system on our railways is not quite perfect yet; or, at all events, if it is impossible to find much fault with the system, the mode in which it is carried into practice is sometimes productive of exasperation. The early bird is always supposed to get, according to its peculiar taste, the most delicious worm; but the early traveller, who has dressed in haste, and rushed from home without breakfast in his anxiety to catch the train, seldom gets any toothsome morsel to satisfy his hunger if he depends on the railway refreshment-room. The waitresses are sometimes sleepy or curt; the waiters, who later on will appear in evening dress, with serviette on left arm and with dignified deportment, are now in shabby mufti, busy dusting the tables, the seats, and the marble-topped counter.

REFRESHMENT ROOM AT EXCHANGE STATION, MANCHESTER (LONDON AND NORTH-WESTERN).

There is only three minutes in which to get your meal. You ask, in desperation, for a sandwich and a cup of coffee. The coffee is hot and nourishing. The sandwich is an overnight one. It has been in its glass prison for eight hours at least. The bread is stale, hard, and curled at the corners, and the ham looks the reverse of tempting. You take one hopeful bite at the sandwich, thinking that it may not taste amiss, notwithstanding its somewhat suspicious appearance. Then you place it on the plate again, without comment, but with your mind crowded with indignant thought, and wonder as you hurry to the train why the modern refreshment-room, with its pretty adornments in coloured glass and electro-plate, and its really good food and drink supply throughout the day, should endeavour to foist on the early and most particular traveller the stale, oft-pronged, smoke-dried sandwiches that have curled up in the night with gradual loss of vitality, though folded in the damp cloth that pretends to keep them fresh and appetising.

The railway traveller nevertheless has something to be thankful for in the way of refreshment. At most of the great stations—at Euston, King's Cross, St. Pancras, and Charing Cross; at Manchester, Liverpool, Normanton, Leeds, York, Carlisle, Edinburgh, Glasgow, and at the stations of a hundred other places—he can, as a rule, obtain all he desires in the way of food and drink served quickly at a moderate price; and would now find it difficult to

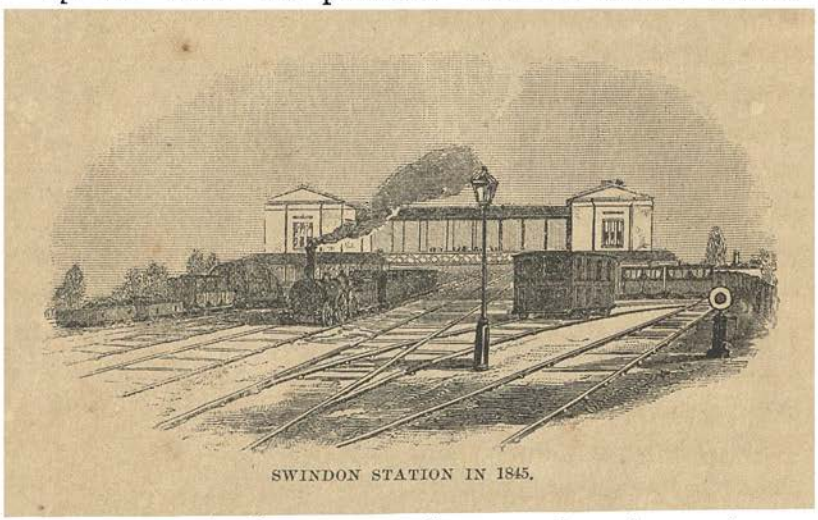
discover such a den on the English railway system as the one to which Charles Dickens introduced "the gentleman from nowhere," who, under the whimsical name of Bardox Brothers, tried to travel beyond the memory of his own birthday, and alighted at Mugby Junction at three o'clock in the morning in the beat of rain and the bluster of wind.

Bardox Brothers made a long and instructive study of this junction for days after the guard had said: "Stand clear, sir, if you please. One, two, right!" and the engine had shrieked and the train gone out into the darkness. The pictures he gives of the precocious boy and the uncompromising missis, and the young ladies, the repellent room, and the extraordinary food supply, are turned to again and again by lovers of fiction, and by travellers who have grimly striven to get sustenance in remote refreshment-rooms that in some features remind them of the famous but uninviting resort at Mugby.

The sardonic spirit of the boy at Mugby has flitted from its original dwelling-place, and now seems to lurk chiefly in the breast of the post-office clerk, who can "line-survey" you with consummate skill and coolness, secretly enjoying your hurry, flutter, and irritation as he calmly cashes your order or serves you with stamps at his own convenience.*

* Official notice has been taken of the incivility that had become a scandal, and during Lord Salisbury's recent term of office the Postmaster-General (Sir James Fergusson), by a hint about the importance of courtesy in the transaction of business, gave a lesson in good manners to those behind the post-office counter.

The boy at Mugby has improved. There is no boy, in fact, so smart, alert, obliging, and polite as the boy at the railway station, whether he moves quickly at your behest in the refreshment-room or marches up and down the platform with his wicker basket,

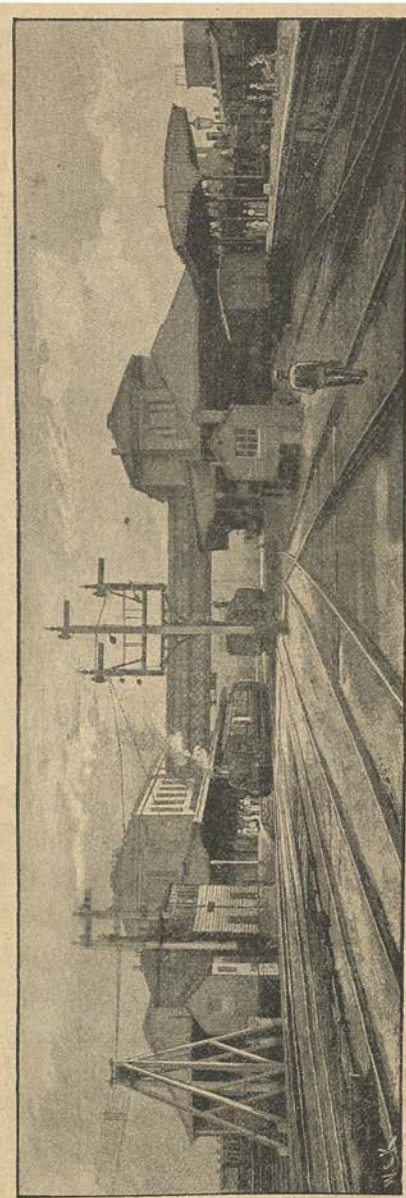


SWINDON STATION IN 1845.

selling his viands, or goes from carriage to carriage with his itinerant bookstall slung around his neck, and offers you, in cheerful tones, the last new book or the latest venture in periodical literature, or the choice of a dozen daily newspapers and weekly publications. The refreshment-room has improved, too. Charles Dickens wrote "Mugby Junction" as a Christmas piece shortly before his second visit to America, which took place in 1867. By the time the story saw the light it was possible to obtain good food at many a railway station.

"The ten minutes' stop at Swindon," a privilege

vouchsafed with the kindliest motive that the refreshment-room keeper might make a steady profit, has become an unmitigated nuisance. It is a stop irritating to the Great Western Company, inasmuch as it delays all their trains going west. It is an exasperating stop to all passengers who do not require refreshment, and are anxious to reach their destination. It has prompted far more impatient inquiry than any sudden pull-up in tunnel or on viaduct, or in deep cutting, with the signal at danger. "Guard —porter — Hi! you, there. What the deuce are we kicking our heels for here?" "Ten minutes for refreshments, sir," replies the



THE PRESENT SWINDON STATION.

[J. S. Protheroe, Swindon.

From a Photograph by]

guard respectfully, trying meanwhile to keep his face straight; or, maybe, the porter mechanically answers the question, which has been put to him with more or less vigour a thousand times, and perhaps mutters to himself, "My stars. The old gentleman is wild!"

The company have always been in a dilemma about this stoppage. Whenever the trains stop ten minutes the passengers fidget about the compartments, bang the windows down, and drag them up again, stamp on the carriage floors, hurl grim satire at the lampmen, the porters, the guards, the stationmaster, and curse the company. If the company, anxious to oblige their customers, lop off a minute or two from the waiting-time, and venture to start any train after a stoppage of only seven or eight minutes, some passenger who has, on the solemn assurance that the train will stop ten minutes, got comfortably into the middle of his dinner in the refreshment-room, finds to his dismay that the train is running out of the station; and if he is hasty and choleric in temperament, there is a dramatic scene.

A novel action, arising out of this train stop at Swindon, came before the courts two or three years ago. It disclosed quite a railway "comedy of errors." A wealthy passenger, named Lowenfeld, travelled first-class from London for Teignmouth on August 7, 1891, the express leaving Paddington at 3 p.m. The train was timed to arrive at 7.42 p.m., and to stop the inevitable ten minutes at Swindon from 4.27 p.m. to 4.37 p.m. The company, he

understood, had made an agreement with the provider of the refreshments at the station to stop all trains there ten minutes, and were bound under an injunction from the Court of Chancery to do so. He was told by the servants of the company that the express would undoubtedly make a stop of ten minutes; and he went to dine. But the train made a stop of only seven minutes; and when the first-class passenger came upon the platform again, congratulating himself that he had put the ten minutes to excellent use, he found that the train had gone. Any expression of annoyance at Swindon would have been idle.

The indignant passenger, feeling that he had been hoodwinked by the company, went on to Bristol, and from that city took a special train to Teignmouth, arriving at the latter place at 8.20 p.m. The special train cost £31 17s., and he gave a cheque for that amount to the stationmaster, but afterwards stopped the cheque. The Great Western Railway Company then sued him for the cost of the special train; and he counter-claimed against the company for damages because they had failed to convey him by the express from London to Teignmouth, and had broken their contract, inasmuch as the train did not stop ten minutes at Swindon.

His Honour Judge Stonor, who heard the case in the Brompton County Court, held that sending on the train three minutes before its time was an act of wilful misconduct on the part of the Swindon stationmaster, and that the passenger was entitled

to damages for his detention and its consequences. Then arose the interesting point as to what the damages really were. It had been laid down by Lord Justice Mellish that "it would be unreasonable to allow a passenger, delayed in his journey, to put the company to an expense to which he could not think of putting himself if he had no company to look to." If the object of the passenger's journey had been some important public or private business, and still more the performance of some public or private duty which would not admit of any delay, the expense of a special train could, his honour thought, be incurred without any exceptional extravagance; but he was not prepared to say that joining your own family and friends three hours sooner—the only object in this case—justified the expenditure on a special train; therefore he considered that the passenger was not entitled to recover the cost of that special train from the company. But the judge decided that he was entitled to recover his first-class fare from Bristol to Teignmouth, seeing that the company had not completed their contract, and that he should be repaid the three shillings he had spent in sending telegrams to his family. The passenger, the judge further held, was entitled to damages for the discomfort, annoyance, and inconvenience suffered by him. Mr. Justice Hawkins, in the case of Woodgate *v.* the Great Western Railway Company, had held that detention for two hours in winter, pacing up and down a cold platform, facing a

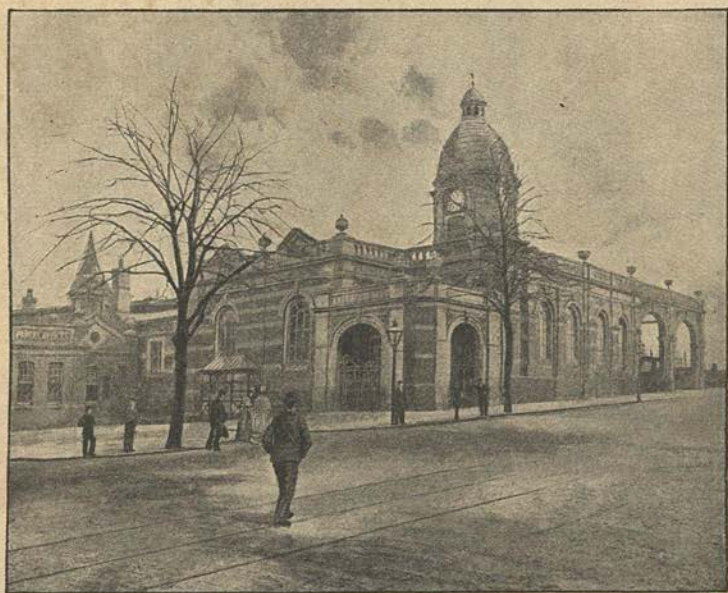
THE DINING-ROOM AT BRADFORD STATION (MIDLAND).

refreshment-stall with nothing but jam tarts and bottles of soda-water, and being sent on by a slow train, entitled the passenger to damages; and though the passenger in the present instance did not seem to have incurred a great deal of physical suffering, his separation from the party with whom he was travelling, and from family and friends in the evening, and his loss of the comfort of a direct express train, entitled him, in his own interest and in that of the public, to reasonable damages, which his honour assessed at forty shillings. While only allowing the passenger the cost of the counter-claim on the amount recovered, the judge gave the railway company full costs; and passengers who have had experience of the freaks of trains at Swindon may be excused for considering that the Great Western were very leniently dealt with for their "wilful misconduct."

The humour of the refreshment-room is varied and inexhaustible. A solicitor from St. Neots, according to Mr. F. S. Williams, arrived ravenous at Leicester Station, entered the refreshment-room, and then returned to the compartment with a piece of very heavy pork-pie and a flask of sherry. "Can you digest that?" sceptically inquired a fellow-traveller. "Digest it?" was the reply. "Do you think, sir, that I allow my stomach to dictate to me what I think proper to put into it?"

Of a different temperament was the passenger whose conduct aroused humorous comment in Chester

in 1888, and led to an action at law, the refreshment contractors at the station suing Mr. Ernest Solly, a surgeon at St. Thomas's Hospital, for libel. The defendant purchased a sausage-roll at the refreshment-room counter, examined it suspiciously, ventured to



LEICESTER STATION.

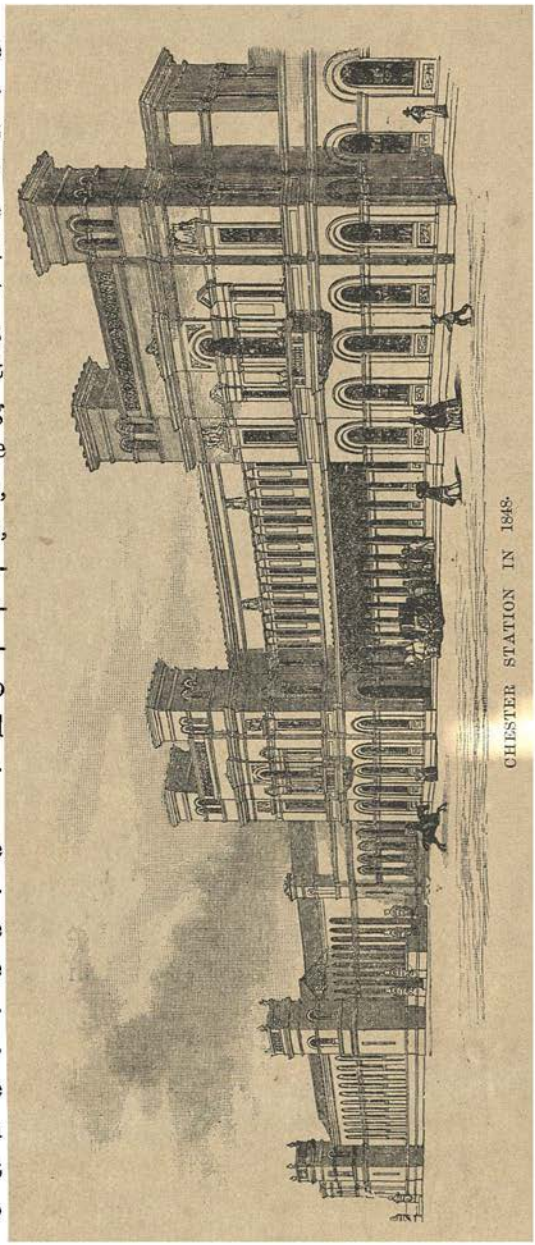
bite it, asserted that it was stale, and declined to eat it, notwithstanding the manager's earnest declaration that the roll was fresh and wholesome. What the surgeon really thought about the delicacy may be gathered from his subsequent conduct. He went on his journey, indignant, leaving the roll behind him, and telegraphed to the Inspector of

Nuisances at Chester: "Please examine sausage rolls, refreshment rooms at station. Bad meat. Will write to-night." The sanitary authorities took the telegram seriously. They swooped down upon the refreshment rooms, seized the sausage rolls, and found that they were wholesome. The defendant, undismayed by the consensus of opinion against him, still maintained that the roll supplied to him resembled venison—that it was "high." The verdict showed that the world is not without sympathy for those who travel by train, and are obliged to eat by the line-side. The plaintiffs were only awarded one farthing damages, each side being ordered to pay its own costs.

Many class barriers are breaking down. The time has gone by, for instance, when the officers in the Guards would think of giving a significant hint to the young fellow who last joined—that he had better get a commission in another regiment, inasmuch as he was a manufacturer's son. Purchase in the army has become obsolete, and much foolish pride and class hauteur have gone with it. The public school no longer closes its portal to the *parvenu*. It takes his fees, and tries, with its academic manner and classical learning, to mould him into shape. But the class barrier is still strong and sturdy in the railway refreshment-room. The bishop and the blacksmith may travel third-class together, and chat by the way; but they will not be permitted to take luncheon side by side in the first-class refreshment-room, if the blacksmith, like the

bishop, wears the apron of his calling. "You must go to the other room, sir," says the graceful girl behind the counter firmly to the blacksmith; and the great robust worker, blushing through the grime that streaks his face, awkwardly protests, perhaps, but withdraws. The first-class refreshment-room is sacred to the well-dressed and those free from toil-stain.

The author once saw a rigid application of this rule. He was standing at the counter of the first-class refreshment-room in a large railway-station in the north which it is not necessary to



CHESTER STATION IN 1848.

name, when a navvy came clumping in. He was a great, muscular fellow, with a pleasant face. When he put his feet down the fancy glasses on the shelves jingled again; and when he placed his bundle and his pick and shovel on the floor, the exquisites who had been whispering soft nothings to the young lady, looked round in dismay, thinking there must have been an earthquake; still, they were afraid to smile at the gigantic figure. The man had put down his things as gently as he could, and after tightening the cords at his knees, looked up, and said, "Ah'll tak' a glass of y' ale, miss." "I cannot serve you here," she said coldly; "you must go to the other bar!" "Ay!—wha-at!" he exclaimed in surprise. "Ain't my money as good as other folks's?" "Oh! yes," she replied; "but I cannot serve you, all the same—you must go to the other bar."

The man was dumbfoundered. "Ay!" he muttered, "it's a rum 'un—by gosh!" and he slowly picked up his bundle, and left the room. But he did not go to the other bar. His feelings had received such a shock that he wandered about the platform, muttering to himself, and he went without refreshment. It seemed odd that this man, who was sober, inoffensive, and ready to pay for what he needed, could not be served at that bar. It was, indeed, almost grotesque that this navvy, who had delved and shovelled to make the line, and without whose tireless physical effort, and that of his kind, there never would have been a station or

refreshment-room at all, should be kept at bay, as altogether unfit to herd with ordinary men.

The position of the barmaid at a railway station refreshment-room, hard as it is, is not altogether a hopeless one. Her rest is broken, and in many cases her hours of duty are long and jading. But she has this solace in a career often of hardship and endurance—that she generally marries well. In the group of men, or rather mashers, who daily buzz around her, there is probably one worth having for personal regard or position, and she marries him, and is perhaps "happy ever afterwards," for there may be good even in the gaitered, bangled, high-collared fop of to-day, just as there was in Robertson's stage exquisite.

To-day, the marriage of the actress to the nobleman causes very little surprise. Nor is it phenomenal for the railway station barmaid to marry a lawyer, or an architect, or a banker, or even that exceedingly busy and practical man the stationmaster himself. The condition of those doomed by fate to remain behind the counter is also improving. The Barmaids' Guild, and the Home of Rest for Barmaids, established by Lady Wolverton, promise to have a most beneficial influence on the life of the girl, whether she is in or out of employment; and legislation is also interesting itself in her career. But, after all, it is to the railway companies and the refreshment contractors that she must look for immediate relief in the shape of shorter hours and better pay. In

fact, at many railway stations the reform, so far as the arrangement of duty is concerned, has begun. For instance, at Liverpool Street Station, on the Great Eastern Railway, an entirely new system of hours has been introduced, of which a London newspaper has given the following account:

"Under the new *régime* one division of young women is on duty, with half an hour's respite for dinner, from seven in the morning till four p.m., and is then quite free for the rest of the day; for at that hour a second lot takes up the work till closing time, with intervals for tea and supper. In addition three or four special barmaids have to be up at five a.m., and end their service entirely at two p.m. In short, the time of labour is lessened by about one hour daily. Week by week the two large divisions exchange hours, and are enabled alternately to spend the mornings or the evenings during the seven days with their friends. Or they can rest in the comfortable house at Hackney Downs, where they are lodged and boarded, everything, even a piano and a housekeeper, being provided for their comfort and recreation. Their average salaries amount to ten shillings a week, and they have no expenses except laundry bills. Every year they have a week's holiday, and can always, if necessary, obtain two or three days' extra leave. These rules only apply to Liverpool Street, the young ladies 'down the line' having to keep hours suited to the local requirements, and being housed in cottages, or, in some cases, in the stations themselves."

The halcyon time desired by Mr. Harry Furniss —and no doubt by many other people—of free bookstalls and free restaurants on all railways, has not yet come; but railway literature is wonderfully varied and cheap, and the refreshment-rooms, though the proprietors still insist on payment, are differently conducted from what they were in the days when Mrs. Sniff taught the young ladies behind the high

counter how to "smooth their cuffs, and look another way while the public foamed" with hunger and rage.

It is only within the last few years that the railway companies have realised the importance of refreshment to the passenger, and discovered that they can make a profit out of him, in addition to his fare; but having made the discovery, they are doing their utmost to get all the refreshment-rooms into their hands, and will, no doubt, ultimately achieve their object, absorbing, perhaps, the pioneer and familiar business of Spiers and Pond. It is also not improbable that they may cater for the mind as well as the body of the passenger, and acquire the whole of the railway station bookstalls. There is apparently no limit to the business enterprise of the great companies; indeed, one of them, not content with the provision of sleeping cars and dining cars, and the acquirement of hotels in great cities, intends to erect a number of "light hotels, on the Swiss style, for the accommodation of visitors to some of their tourist haunts."

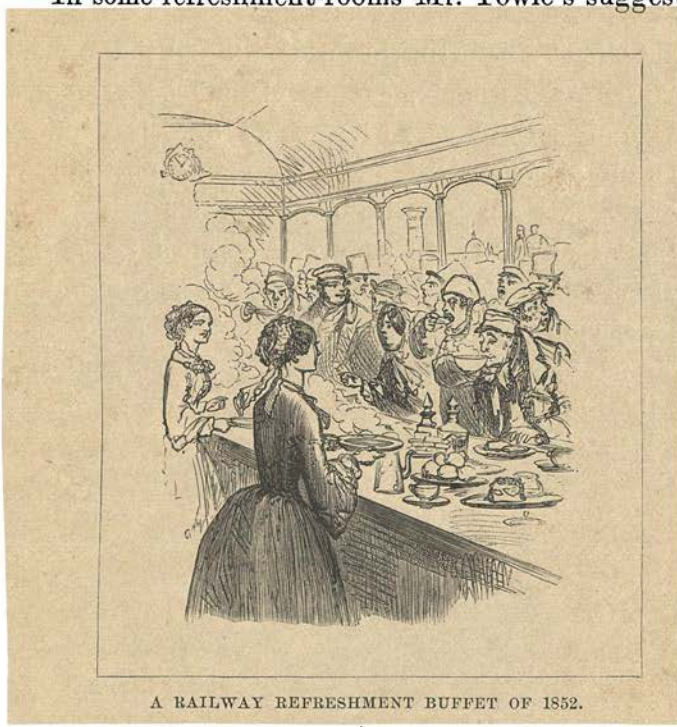
The question of refreshment and rest is thus becoming almost as important, not only to the passenger, but to the railway shareholder, as the journey itself. Mr. Towle, the manager of the Midland Railway Company's hotels and refreshment-rooms, holds that "if it be the duty of a railway company to carry a passenger safely to his destination, it may be properly held equally its duty to make reasonable provision for his personal comforts;" and directors do not now dissent from this opinion, especially as they see in

the supplementary business a means of increasing dividend. The passenger has the notion that every railway refreshment-room is the sole property of Messrs. Spiers and Pond; yet the Great Western own three large hotels, and intend to take over the whole of their refreshment-rooms. The London and North-Western work ten hotels and twenty-seven refreshment-rooms; the Midland have six hotels and forty refreshment-rooms; the Great Eastern three hotels and twenty-five refreshment-rooms; the Great Northern four hotels and fifteen refreshment-rooms; and the North-Eastern six hotels and twenty-eight refreshment-rooms, only three of the latter, however, being worked by the company. Many of the hotels are not merely rich, but comfortable in appointment; and, as the country reporter once remarked to the head waiter at the county banquet, "the cuisine leaves nothing to be desired." But many of the refreshment-rooms might be improved both in arrangement and in their food supply. On the question of the tariff, Mr. Towle says:

"This should be so arranged as to include food and drink for every class of travellers, and special stress is laid on the necessity for the provision of luncheon baskets, trays of tea, milk, and fruit being served at the trains, especially to women and children, and the *free* provision in every buffet of a glass of cold filtered water willingly served to any passenger applying for it. Wherever the journey occupies several hours, and the traffic is sufficient to require express trains, restaurant cars should be attached, and made available at a uniform charge for meals for all passengers whilst travelling by the particular train, and the tariff should be moderate, say, four shillings the first series of dinners, and two shillings and sixpence for the

second series, thus enabling persons of moderate means to satisfy their wants. Refreshments ordinarily obtained in buffets should also be provided for passengers who do not wish to sit down to a meal."

In some refreshment-rooms Mr. Towle's suggestions



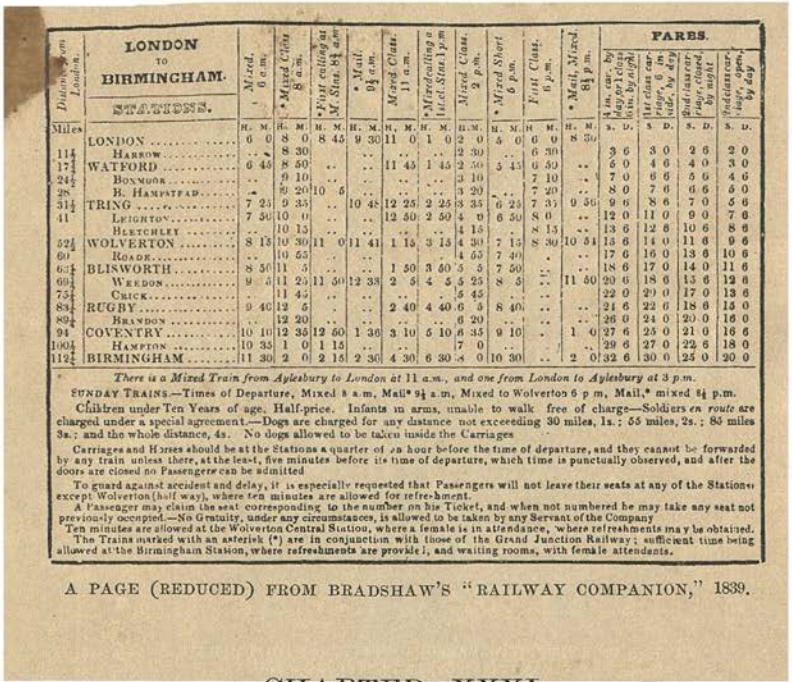
A RAILWAY REFRESHMENT BUFFET OF 1852.

have already been adopted; the travelling buffet has also become an institution. The Bishop of Dakota goes through his diocese, wherever there is a railway track and no place of worship, in a travelling church —a long carriage with two divisions, the small one being fitted up as a house for his use, while the large compartment is set out as a church, with altar, pulpit, font, and organ, and so spacious that

it will seat seventy people. In this country there is comparatively little need of a travelling church, but the train is becoming a travelling restaurant and hotel.

The Great Northern, the Midland, and the London and North-Western are, as has already been pointed out,* running third-class as well as first-class dining cars, admirably appointed, and all keeping good tables; and one seems almost within measurable distance of the time when every long-journey English train, like the German Emperor's new *train de luxe*, will contain dining, sleeping, and bath car, though at a penny a mile even our richest railway companies may find it impossible to provide the passengers with a library hung with Gobelin tapestry.

* Vol. I., p. 389 ff.



Distance from London.	LONDON TO BIRMINGHAM. STATIONS.	Mixed. 6 a.m.	* Mixed Class 8 a.m.	* First calling at M. Stat. 8½ a.m.	* Mail. 9½ a.m.	Mixed Class. 11 a.m.	* Mixed calling at Islet. Stat. 1 p.m.	Mixed Class. 2 p.m.	* Mixed Short 5 p.m.	First Class. 6 p.m.	* Mail. Mixed. 8½ p.m.	FARES. 1st cl. carr. by day, or 1 class in by night	1st class carr. by day, & 1st class by night	2nd class carr. by day, & 1st class by night	Inside carriage, by day.
Miles		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	s. d.	s. d.	s. d.	s. d.
	LONDON	6 0	8 0	8 45	9 30	11 0	1 0	2 0	5 0	6 0	8 30				
11¼	HARROW	..	8 30		..	..	..	2 30	..	6 30		3 6	3 0	2 6	2 0
17¼	WATFORD	6 45	8 50	..	..	11 45	1 45	2 50	5 45	6 50	..	6 0	4 6	4 0	3 0
24½	BOXMOOR	..	9 10	..	..	..	..	3 10	..	7 10	..	7 0	6 6	5 6	4 6
28	B. HAMPSTEAD	..	9 20	10 5	..	..	..	3 20	..	7 20	..	8 0	7 6	6 6	5 0
31½	TRING	7 25	9 35	..	10 48	12 25	2 25	3 35	6 25	7 35	9 36	9 6	8 6	7 0	5 6
41	LEIGHTON	7 50	10 0	..	..	12 50	2 50	4 0	6 50	8 0	..	12 0	11 0	9 0	7 6
	HLETCHLEY	..	10 15	..	..	..	..	4 15	..	8 15	..	13 6	12 6	10 6	8 6
52¼	WOLVERTON	8 15	10 30	11 0	11 41	1 15	3 15	4 30	7 15	8 30	10 34	13 6	14 0	11 6	9 6
60	ROADE	..	10 55	..	..	..	..	4 55	7 40	..	..	17 6	16 0	13 6	10 6
63¼	BLISWORTH	8 50	11 5	..	..	1 50	3 50	5 5	7 50	..	..	18 6	17 0	14 0	11 6
69¼	WEEDON	9 5	11 20	11 50	12 38	2 5	4 5	5 25	8 5	..	11 50	20 6	18 6	15 6	12 6
75¼	CHICK	..	11 45	..	..	..	..	5 45	..	..	..	22 0	20 0	17 0	13 6
83¼	RUGBY	9 40	12 5	..	..	2 40	4 40	6 5	8 40	..	..	24 6	22 6	18 6	15 0
89¼	BRANDON	..	12 20	..	..	..	..	6 20	..	..	..	26 0	24 0	20 0	16 0
94	COVENTRY	10 10	12 35	12 50	1 36	3 10	5 10	6 35	9 10	..	1 0	27 6	25 0	21 0	16 6
100¼	HAMPTON	10 35	1 0	1 15	..	..	..	7 0	..	..	..	29 6	27 0	22 6	18 0
112¼	BIRMINGHAM	11 30	2 0	2 15	2 30	4 30	6 30	8 0	10 30	..	2 0	32 6	30 0	25 0	20 0

There is a Mixed Train from Aylesbury to London at 11 a.m., *and one from London to Aylesbury at* 3 p.m.

SUNDAY TRAINS.—Times of Departure, Mixed 8 a.m, Mail* 9¼ a.m, Mixed to Wolverton 6 p.m, Mail,* mixed 8¼ p.m.

Children under Ten Years of age, Half-price. Infants in arms, unable to walk free of charge—Soldiers *en route* are charged under a special agreement.—Dogs are charged for any distance not exceeding 30 miles, 1s.; 55 miles, 2s.; 80 miles 3s.; and the whole distance, 4s. No dogs allowed to be taken inside the Carriages

Carriages and Horses should be at the Stations a quarter of an hour before the time of departure, and they cannot be forwarded by any train unless there, at the least, five minutes before its time of departure, which time is punctually observed, and after the doors are closed no Passengers can be admitted

To guard against accident and delay, it is especially requested that Passengers will not leave their seats at any of the Stations except Wolverton (half way), where ten minutes are allowed for refreshment.

A Passenger may claim the seat corresponding to the number on his Ticket, and when not numbered he may take any seat not previously occupied.—No Gratuity, under any circumstances, is allowed to be taken by any Servant of the Company

Ten minutes are allowed at the Wolverton Central Station, where a female is in attendance, where refreshments may be obtained.

The Trains marked with an asterisk (*) are in conjunction with those of the Grand Junction Railway; sufficient time being allowed at the Birmingham Station, where refreshments are provided, and waiting rooms, with female attendants.

A PAGE (REDUCED) FROM BRADSHAW'S "RAILWAY COMPANION," 1839.

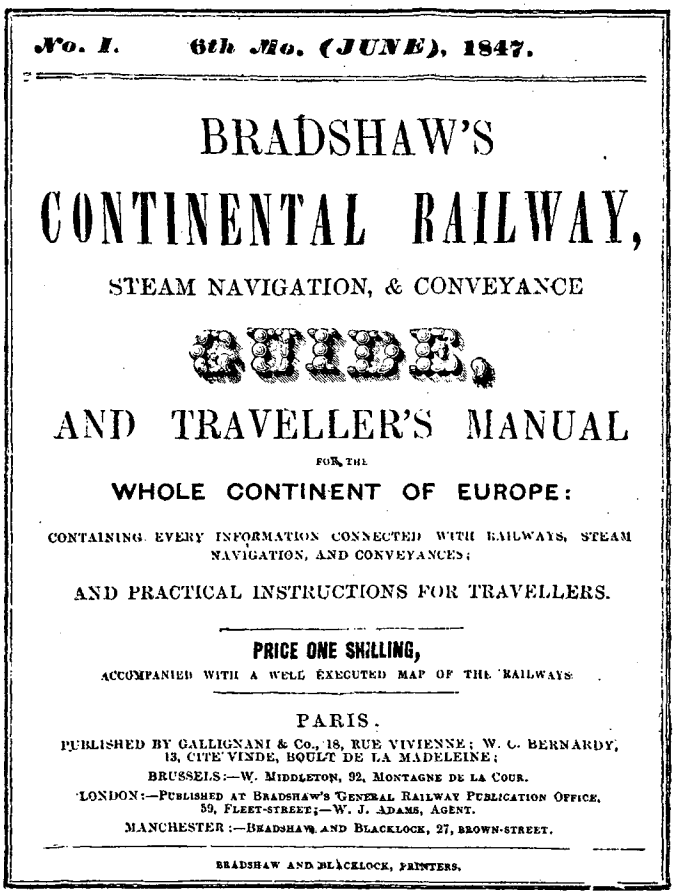
CHAPTER XXXI.

QUAINT AND MODERN TIME-TABLES.

A Faded Time-Table—The Train Service Half-a-Century Ago—Conditions of Travel—Good Advice—Smoking Forbidden—No Tips for the Porter—Riding Outside the Carriage—Passengers Conveyed in Rotation—Line-Making Curiosities—Glowing Description of Railway Works—"Bradshaw"—The Official Time-Tables—How they are Produced—An Old Time-Table from Stockton and Darlington—Old Railway Stations.

A FADED, well-thumbed time-table was lent to the author last year by a bookworm, who treasures everything in the way of transient literature, from playbills to waybills. This tiny book, that you could almost slip into your vest pocket, is a "Bradshaw's Railway Time-Table, and Assistant to

Railway Travelling." It is dated October 25, 1839, and opens with an "address" to the effect that the



No. I. *6th Mo. (JUNE),* **1847.**

BRADSHAW'S
CONTINENTAL RAILWAY,

STEAM NAVIGATION, & CONVEYANCE

GUIDE,

AND TRAVELLER'S MANUAL

FOR THE

WHOLE CONTINENT OF EUROPE:

CONTAINING EVERY INFORMATION CONNECTED WITH RAILWAYS, STEAM NAVIGATION, AND CONVEYANCES;

AND PRACTICAL INSTRUCTIONS FOR TRAVELLERS.

PRICE ONE SHILLING,

ACCOMPANIED WITH A WELL EXECUTED MAP OF THE RAILWAYS.

PARIS.

PUBLISHED BY GALLIGNANI & Co., 18, RUE VIVIENNE; W. C. BERNARDY, 13, CITE VINDE, BOULT DE LA MADELEINE;

BRUSSELS:—W. MIDDLETON, 92, MONTAGNE DE LA COUR.

LONDON:—PUBLISHED AT BRADSHAW'S GENERAL RAILWAY PUBLICATION OFFICE, 59, FLEET-STREET;—W. J. ADAMS, AGENT.

MANCHESTER:—BRADSHAW AND BLACKLOCK, 27, BROWN-STREET.

BRADSHAW AND BLACKLOCK, PRINTERS.

FAC-SIMILE (REDUCED) OF TITLE-PAGE OF THE FIRST "CONTINENTAL" BRADSHAW, 1847.

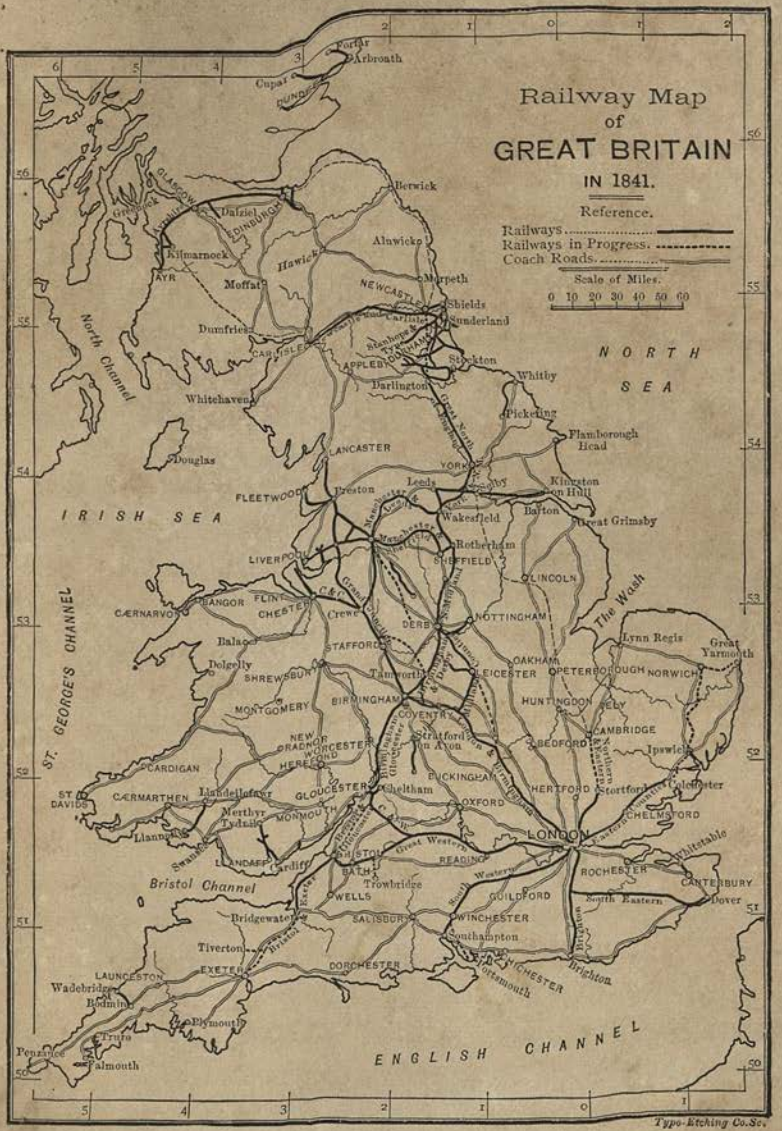
book "is published by the assistance of several railway companies, on which account the information it contains may be depended upon as being correct

and authentic. The necessity of such a work," it adds, "is so obvious as to need no apology; and the merits of it can be best ascertained by a reference to the execution, both as regards the style and correctness of the maps and plans with which it is illustrated."

The table gives the number of trains daily between London and Birmingham; between London and Twyford on the Great Western; between Birmingham, Liverpool, and Manchester; Manchester and Liverpool; and Newcastle and Carlisle. Its maps of the country the railways traverse, and its plans of Birmingham, Manchester, and Leeds are admirable. It contains tables of hackney coach fares, and of coach routes to Liverpool and Manchester from Carlisle, and also a table by which the passenger may calculate the rate of speed per hour. Between London and Birmingham there were ten trains per day, six mixed, two first-class, and two mail trains, the last mail train quitting town at half-past eight o'clock at night, being the mixed mail. The fares were 32s. 6d. each person, in a "four inside car, by day, or first-class, six inside, by night;" 30s., in a "first-class carriage, six inside, by day;" 25s., in a "second-class carriage closed, by night;" and 20s., in a "second-class carriage, open by day."

In these days some of the companies are providing sleeping accommodation on long journeys for third-class passengers; fifty years ago the first-class mail carriage had one compartment that could be converted

into a bed-carriage if required. Now that so many companies have abolished the second-class carriage, and given the passenger quite as comfortable a compartment for a third-class fare, it is interesting to read in this old time-table that the second-class carriages in the mixed trains were "open at the side, and without linings, cushions, or divisions in the compartments." "Infants in arms, unable to walk," were permitted to travel free of charge; carriages and horses, unless they reached the station five minutes before the train's arrival, were not forwarded; and passengers were subjected to the same rigid rule, for the station doors were closed, and no matter how late the train, or how many tardy travellers raged outside, nobody was admitted. The railway companies were inexorable. Nevertheless there was some thought for those who went by train, inasmuch as one of the notices says: "A passenger may claim the seat corresponding to the number of his ticket;" and another: "To guard against accident and delay, it is especially requested that passengers will not leave their seats at any of the stations except Wolverton—half way—where ten minutes are allowed for refreshment." It was the custom to place the luggage on the roofs of the coaches, to advise passengers (at all events, on the Liverpool and Manchester Railway) "to get in and out of the railway carriages on the left hand side as they face the engine," and "for better security," they were requested "to take carpet bags and small packages inside the carriages."



MAP OF THE RAILWAYS OF GREAT BRITAIN IN 1841.

(From Bradshaw's "Railway Guide," January, 1842.)

Smoking was not allowed either in the carriages or at the stations; and every railway servant who accepted a tip was in fear of instant dismissal.

On the latter point the "Grand Junction Railway Guide Book" half-a-century ago was very emphatic:

"The regulations of the company do not admit of gratuities to any of its servants. The consequence is that, instead of that unpleasant and selfish obsequiousness and that disposition to insult which persons of that class usually practise, the greatest civility is experienced, questions are replied to in a respectful manner, and when you have received the attention you require, without any request on the part of the porter to be 'remembered,' either by a touch of the hat or an insolent scowl, he walks quickly to attend to the next person who happens to arrive."

The railway porter has recovered from his early trepidation about the tip. The by-law still threatens him at nearly every station with the worst of all pains and penalties; but he quietly treats the by-law with contempt and takes the tip. Like the keeper on the moors, the valet in the country house, and the waiter in hotel or restaurant, he looks upon the tip as his perquisite. He expects it, and he invariably gets it, and probably few passengers begrudge him the pence.

The same book gives novel advice to the passenger who is a good climber and does not wish to miss anything on the journey:

"If you wish to see and hear all about the matter, take your place outside. You will want an extra great coat, and a pair of gauze spectacles to keep the dust and smoke out of your eyes; but in all other respects, you will enjoy it ten times more than your fellow-travellers. I shall suppose you are mounted on the box-seat.

You look round and see several engines with red-hot fires in their bodies, and volumes of steam issuing from their tall chimneys. One of them moves slowly towards you. The huge creature bellows at first, like an elephant. Deep, slow, and terrific are the hoarse heavings that it makes. . . . There it is, roaring, groaning, and grunting, like a sea-horse, and spouting up steam like a whale. You feel a deep, strong, tremulous motion throughout the train, and a loud jingling rattle is heard, analogous to what is experienced in a cotton mill. . . . The passengers pretty generally avail themselves of the excellent accommodation in the first-class carriages for repose; and as they feel perfectly secure, many of them sleep soundly the whole distance. When the train stops, a long and loud creak is felt and heard throughout the whole line of carriages, and a few little ones afterwards—this is all the inconvenience which is found on stopping."

In "The Midland Counties' Railway Companion," published in 1840, which has already been referred to,* it is set forth that "passengers at the road stations will only be booked conditionally—that is to say, in case there shall be room in the train for which they are booked; in case there shall not be room, passengers booked for the longest distance will be allowed the preference; and passengers booked for the same distance will have priority according to the order in which they are booked." Nearly everything in this little work, written fifty years ago, is described in glowing periods. The old railway station at Derby "is a handsome brick structure of very great extent," with "handsome" refreshment-rooms; and we are ingenuously told that in the carriage-houses and workshops it "is intended to repair everything on the spot." In the making of the line at Borrowash,

* *See* Vol. I., p. 128.

just outside the town, the navvies unearthed eighty skeletons. Nine of them were of gigantic stature; and

LIST OF THE PRINCIPAL RAILWAYS IN GREAT BRITAIN,

NOW COMPLETED.

WITH THE PRICES OF THE SHARES ON THE 31ST DEC. 1841, CAPITAL, DIVIDENDS, TRAFFIC, ETC.

COPIED FROM THE MONTHLY CIRCULAR OF

EARLE LANGSTON,

SHARE BROKER, MANCHESTER.

Amount of Whole Receipts this week.	When opened throughout.	No. of Miles.	Capital. £	RAILWAYS COMPLETED.	Paid. £ s. d.	Price per Share.	Dividend.	REMARKS.
£350	September, 1840	15	500,000	Birkenhead and Chester	50 0 0	31 0 0		
				Ditto ditto new shares	20 0 0	13 10 0		
936	August, 1839	33½	1,120,000	Birmingham and Derby	100 0 0	59 0 0	0 13s ₰ sh.	For the half-year ending 31st December last.
				Ditto ditto new shares	25 0 0	16 0 0	0 3s ₰ do.	
1390	December, 1840	51	1,441,660	Ditto and Gloucester	100 0 0	61 0 0		
				Ditto ditto Quarter Shares	12 10 0	10 5 0		Call of £5. per Share on 25th February next.
	May, 1837	6	270,000	Dublin and Kingstown	80 0 0		4 ₰ ct. ₰ an.	
		17	140,000	Dundee and Arbroath	25 0 0		4 do. do.	Payable in June.
	October, 1831	14	133,333	Edinburgh and Dalkeith	50 0 0		2½ do. do.	
1140	January, 1841	74	1,333,330	Great North of England	90 0 0	69 10 0	3 do. do.	
	December, 1831	8	148,195	Garnkirk and Glasgow	25 0 0		30s ₰ sh. ₰ an.	
845	August, 1840	40	833,300	Glasgow, Paisley and Ayr	30 0 0	34 0 0	12s. ₰ sh.	For the half-year ending 30th June.
630	April, 1841.	22	833,330	Glasgow and Greenock	25 0 0	23 0 0		
				Ditto ditto Half Shares	4 10 0	4 5 0		
				Grand Junction	100 0 0	106 0 0	5l 10s ₰ sh.	
6912	July, 1837	97	2233,000	Ditto Half Shares	50 0 0	53 0 0	2l 15s do.	For the half-year ending 30th June.
				Ditto Quarter Shares New	12 10 0	26 5 0	13s do.	Call of £2. 10s. per Share on 6th January.
				Ditto ditto (Chester & Crewe)	25 0 0	49 0 0	1l 7s 6d	
				Great Western	65 0 0	82 10 0	19s 6d do.	
10,300	June, 1841.	118	6500,000	Do. Do. Half Shares	50 0 0	61 10 0	12s 6d do.	For do. do.
				Do. Do. Fifth	4 0 0	10 10 0	1s 3d do.	
775	July, 1840	30	560,000	Hull and Selby	50 0 0	39 10 0	10s. ₰ sh.	For the half-year ending 30th June.
	September, 1834	20	240,000	Leeds and Selby	100 0 0	95 0 0	5 ₰ ct. ₰ an.	
	April, 1833	16	175,000	Leicester and Swannington	50 0 0		8 do. do.	
				Liverpool and Manchester	100 0 0	192 0 0		Bonus £1 per Share. on the original Shares
1122	September, 1839	31	1,465,000	Ditto and Do. Half Shares	50 0 0	93 10 0	40 ₰ ct. ₰ an.	for the half-year end-
				Ditto and Do. Quarter Shares	25 0 0	46 5 0		Bonus 2s. per Share. ing 30th June.
				London and Birmingham	90 0 0	176 0 0	4l. 5s ₰ sh.	
14,250	September, 1838	112	5,300,000	Ditto and Do. Quarters	5 0 0	25 0 0	1l. 12s ₰ sh.	For the half-Share, due 30th June. Call of
				Ditto and Do. Thirds	33 6 8	57 10 0	1l. 7s. 2d. do.	£10. on the 5 Shares, due 10th January next.
				Ditto and Do. New Thirds	5 0 0	29 0 0	6s. 1d. do.	
1450	September, 1841	51	2,400,000	London and Brighton	50 0 0	39 17 6		Meeting in London 20th January.
221	May, 1839	10	631,815	London and Croydon	14 10 0	17 10 0		
737	December, 1838	4	333,330	London and Greenwich	20 0 0	6 15 0	5 ₰ ct. ₰ an.	Payable April and October.
4090	May, 1840	76	1,666,660	London and Southwestern	25 17 9	29 10 0	1l. 10s. ₰ sh.	For half-year ending 30th June.
			210,000	Ditto ditto Fenchs	2 15 0	4 11 0		
	November, 1841	18	400,000	Ditto ditto and Gosport	50 0 0	58 0 0	3 ₰ ct. ₰ an.	
843	July, 1840.	3½	938,000	London and Blackwall	25 0 0	11 5 0		
				Lancaster and Preston	47 10 0	37 5 0	17s. 6d. do.	
399	June, 1840.	20½	483,333	Ditto ditto new	19 0 0	17 0 0	12s. 7d. do.	For the half-year ending 30th June last.
559	May, 1838	10	650,000	Manchester, Bolton and Bury	93 0 0	51 10 0	1l. 10s ₰ sh.	Ditto do. ending 30th June last.
				Manchester and Leeds	70 0 0	71 0 0	2 0 do.	
5725	March, 1841.	50	2,250,000	Ditto ditto Half Shares	30 0 0	30 10 0	17 2 do.	Ditto do. do.
				Ditto ditto Quarter Shares	7 10 0	8 16 6		
	February, 1826	61	20,000	Monkland and Kirkintilloch	25 0 0		5 ₰ ct. ₰ an.	
2295	July, 1840.	57	1,666,660	Midland Counties	100 0 0	85 0 0	2l. 10s. ₰ sh.	For the half-year ending 30th June.
				Ditto ditto Quarter Shares	15 0 0	21 5 0	12s. 6d. do.	
1401	March, 1833	22	1,050,000	Newcastle and Carlisle	100 0 0		6 ₰ ct. ₰ an.	
939	October, 1839	23	580,000	North Union	75 0 0	77 0 0	£2. ₰ sh.	
				North Midland	100 0 0	72 0 0	2l. 5s. do.	
3136	July, 1840.	72	2,383,300	Ditto ditto Half Shares	40 0 0	36 0 0	£1. ₰ do.	To 30th June last.
				Ditto ditto Thirds	13 0 0	17 0 0		
	March, 1825	8	100,000	Stockton and Darlington	100 0 0		13 ₰ ct. ₰ an.	
	October, 1838	13	120,000	Sheffield and Rotherham	25 0 0	31 10 0	8 do. do.	Payable January and July.
1465	July, 1840	23	600,000	York and North Midland	50 0 0	92 0 0	2l. ₰ share	For the half-year ending 30th June.
				Ditto Ditto Half Shares	13 0 0	31 10 0	11. 6s. do.	

FAC-SIMILE (REDUCED) OF PAGE FROM BRADSHAW'S "RAILWAY GUIDE" OF JANUARY, 1842, SHOWING LIST OF THE PRINCIPAL RAILWAYS THEN COMPLETED.

in one of the skulls was the head of an arrow. "A singular box, lined with gold, which contained some amulets and jewels, was also discovered." But even

these relics, supposed to be the forms and property of ancient Britons, can hardly be looked upon as objects of antiquity in comparison with the toad that was dug out of a railway cutting at Greenock, in September, 1888.

THOMPSON'S TABLE,

SHEWING THE RATE OF TRAVELLING PER HOUR.

A Quarter of a Mile in		Equals Miles per Hour.	A Quarter of a Mile in		Equals Miles per Hour.	A Quarter of a Mile in		Equals Miles per Hour.
Min.	Sec.		Min.	Sec.		Min.	Sec.	
15	..	1	..	44	20½	..	24¼	37
7	30	2	..	43	21	..	23½	38
5	..	3	..	42	21½	..	23	39
3	45	4	..	41	22	..	22½	40
3	..	5	..	40	22½	..	22	41
2	30	6	..	39	23	..	21½	42
2	8	7	..	38	23½	..	21	43
1	52	8	..	37	24	..	20½	44
1	40	9	..	36	24½	..	20	45
1	30	10	..	36	25	..	18	50
1	22	11	..	35	25½	..	17	52
1	15	12	..	34	26	..	16	56
1	9	13	..	33½	26½	..	15	60
1	4	14	..	33	27	..	14	64
1	..	15	..	32½	27½	..	13	69
..	58	15½	..	32	28	..	12	75
..	56	16	..	31½	28½	..	11¼	80
..	54½	16½	..	31	29	..	10	90
..	53	17	..	30½	29½	..	9	100
..	51½	17½	..	30	30	..	7½	120
..	50	18	..	29	31	..	6	150
..	48½	18½	..	28	32	..	4½	200
..	47	19	..	27½	33	..	2¼	400
..	46	19½	..	26½	34			
..	45	20	..	25	36			

THOMPSON'S RAILWAY TABLE.

(*From "Bradshaw's Railway Companion" of 1839.*)

The reptile was found alive, but limp and lazy, in a clay bed through which the navvies were working; and an expert gave its age as thirty thousand years! "The Midland Counties' Railway Companion" also says the old station-house at Leicester was "a magnificent building;" that the Birmingham terminus was "a

magnificent building" fronting the town; and that the train stopped beneath an "elegant metallic shedding."

About Wolverton, the centre of the London and Birmingham Railway, the writer grows enthusiastic.

THE WORKS AT WOLVERTON—THE "BODY" SHOP.

"The extent of the works for the railway," he says, "excites the admiration of every beholder. It is a little artificers' world in itself: engine manufactories, machinery, a grand depôt, dwellings for the workmen, the whole establishment laid out on an excellent plan, the sight of which, as the model of a perfect work-town, would have delighted Peter the Great. The locomotive-engine station is a noble work. No trade but has here its appropriate and perfect exercise. A large wharf and storehouses render this grand establishment, with its

fine architectural structures, combining elegance and beauty with utility, and every accommodation and luxury a traveller can desire, more like the fabled

A LIVERPOOL STATION (TITHEBARN STREET) IN 1850.

mansions of German gold-hunters and dwarfs than the work of a single English company."

The increase in railway literature is almost as amazing as the growth of the railway itself. Trains have become so numerous, and are run so often, that it would be idle for even the most famous mathematician to attempt to "carry them all in his head." In fact, he is relieved from this responsibility, for "officially every month" is issued, under the Queen's

patronage, "Bradshaw's General Railway and Steam Navigation Guide for Great Britain and Ireland," and in its seven hundred pages, more than an inch thick, it yields remarkable reading, and tells you much about the nation's work. The study of "Bradshaw" is supposed to indicate one of two mental conditions—that a man has a brain like Babbage or some modern "chess fiend," or that he is a hopeless lunatic, and should forthwith be removed to an asylum. There is to the average eyesight and mind, shrinking from small type and detesting bother, something bewildering about "Bradshaw." You wonder where the proprietor got the precise men who set it up, and how on earth it is done; for after a glance at the key, with its instructions as to what new stations have been opened, what places on the railway track have, like brides, just changed their names, how to tell "shunts," and when the train is going to stop by signal to take up, you gradually become disheartened as you wade through the index with its interminable list of railway stations, ornamented with asterisks, daggers, double daggers, and other mysterious typographical signs, showing that at this station there is a refreshment-room, at that a telegraph office, and at the other no telegraph office whatever, though there is one in the town or village half-a-mile away.

When you get into the maze of this huge monthly magazine that scorns fiction and is congested with facts, amid the intricate tables of place-names, dots, figures, warning hands, dark lines, notes, references,

PETERBOROUGH STATION IN 1845.

indications of trains "up" and "down," trains that run on "week days," trains that run on "Wednesdays only," and trains that run on "Saturdays only," and when, after striving in vain for half an hour to ascertain really what time you will arrive at your destination, you alight, with your head in a fog and your eyes aching, on the encouraging words in italic "see above," or "vice versâ," you feel inclined to fling "Bradshaw" out of the window. Yet, if the book is properly approached, and studied with method, it is full of interest; indeed, for some men who like nicety of work, calculation and research, and understand "the philosophy of figures," it has a fascination that no other book possesses, and there is a tradition to the effect that a statesman, much given to calculation and finance, peruses it daily in the solitude of the recess.

The controversy as to the originator of "Bradshaw's Guide," like the controversy with regard to the writer of the "Letters of Junius," will never die. There are people who still believe that John Gadsby, the Manchester printer, issued the first railway guide; but those who are confident that George Bradshaw did invent the now noted time-table may be interested in this gossip from a Lancashire journal about him:

"George Bradshaw was the originator and publisher of 'Bradshaw's Railway Guide,' the first edition of which appeared on October 19th, 1839. This contained twenty-four pages only, and a number of maps. In 1844 it had increased to fifty-nine pages, puny indeed when compared with the thick guide of to-day, and which, like the 'Post Office Guide,' is every year becoming more unwieldy. In course of a holiday ramble in Norway and Sweden, in 1874, I

one day went into an old village churchyard at Opslo, and there saw George Bradshaw's grave. It had a headstone and low border of red granite, with the inscription as follows: 'George Bradshaw, of Manchester, England, who died 6th September, 1853, aged 53 years.'"

Another business man, it should be remembered, was associated with the improvement of "Bradshaw." On the cover of the guide for 1842 appears the name and address, "W. J. Adams, 170, Fleet Street, London." Mr. Adams was the agent and publisher of the little work in town. He made many valuable and persistent suggestions for the enlargement of the guide, ultimately got his own way, and thirty years ago the time-table consisted of 290 pages, and gave the departures and arrivals on three hundred lines.

GEORGE BRADSHAW.

Innumerable time-tables are printed in addition to "Bradshaw." The railway companies produce official time-tables giving information with regard to the running of their own passenger trains and connections. They also get out, for the use of their servants, elaborate "working time-tables," giving the running of every train, and particulars as to the shunting and marshalling. In nearly every large town there are time-tables, too, the product of private commercial enterprise, time-tables

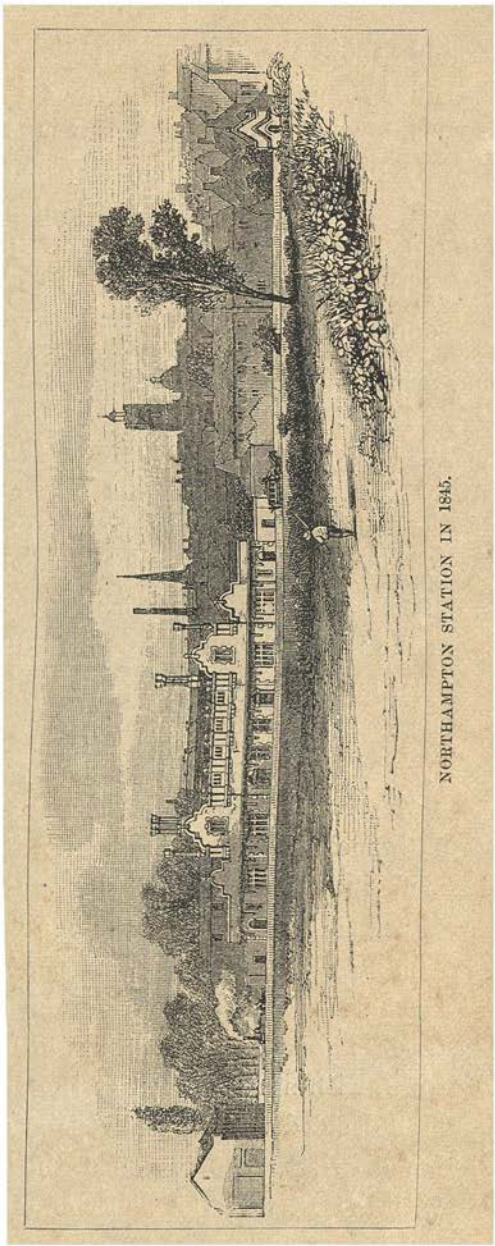
with diaries attached, or time-tables half buried in advertisements. Some of these time-tables are conspicuous for their accuracy and handy make-up; and one of the most notable is "Cassell's Time-Tables

NORWICH STATION IN 1845.

and Through-Route Guide," which includes every railway station within one hundred miles of town and many of the principal places beyond, gives you an admirable railway map, and a useful index containing not only the stations, but the single and return fares to them.

The official time-tables of the various companies are, however, the most surprising productions. They are sold at the price of one penny; but they cost nearly sixpence per copy. These time-tables are not merely instructive as to the running of trains, but give a host

of hints to passengers as to how they can travel, lunch, dine, sleep, utilise country coaches or town omnibuses, catch the boat for the Continent, or the liner for New York. They are in some sense educators, for their maps of the United Kingdom, and their plans of the great cities, extend one's geographical and topographical knowledge. They tell also, in their blunt, practical way, the story of the restless railway development of the age, one bearing on its title-page the announcement that you can run from London to Aberdeen in twelve and a quarter hours,



NORTHAMPTON STATION IN 1845.

and that there are sleeping saloons on the night trains; another that the new through express service has started to and from the West of England by way of the Severn Tunnel; another that the direct route is open to the north along the Forth Bridge; and another taking you mentally away from the roar of the city and the striving of business to the quiet country-side, and tempting you by its list of farm-house apartments.

The plan adopted for the production of the official time-table is practically the same on every railway. At the conference of the officers of the system, held the third week in every month, questions relating to the working of the line and the conduct of traffic are discussed, and it is at this conference that the alterations in the train service are decided upon. The time-table must be carefully and rapidly revised. However drastic the change in the running of a train from London to Holyhead, or from the metropolis to Glasgow, and however great the upset of the time of trains running on branch lines in consequence, the alterations must be made in a few days, and the time-table be in the hands of passengers by the first of the month. The work, presuming it is a London and North-Western Company's time-table, is done in this way: "The printing contractors have their offices at Newton-le-Willows. To that town, within a few days of the train alterations having been decided upon, there repairs a clerk for each of the ten districts, who is called the 'time-table clerk,' and with these ten clerks comes an official from the office of

the superintendent of the line to supervise their labours and assist them with his experience. Taking the minutes of the officers' conference as their guide, these clerks proceed to revise the time-table, each working out the times of his own section of the line, but all comparing notes to ensure a harmonious result. As they progress the results of their labours are placed in the hands of the printers, who are on the spot, and the proof sheets are afterwards revised and corrected by the clerks who have prepared them." Now and then the work is done under great pressure, requiring zeal and toil by night as well as by day; and the production of the time-table in the final rush of copy, and the last quick correction, rather reminds one of the bustle and rapid movement in a daily newspaper office when the first edition is going to press. Fifty-seven years ago the production of the time-table did not require so much forethought and typographical skill, judging from the one given on the following page, and formerly in use on the Stockton and Darlington Railway.

There are no fewer than sixteen weekly and monthly newspapers and periodicals devoted to railway news and literature, in addition to the multitude of time-tables; and the official guides issued or sanctioned by the great railway companies—books filled with useful information, brightened by many illustrations, and rendered additionally instructive by maps of the country and plans of great cities — make a valuable library in themselves.

SUMMER OF 1836.

STOCKTON & DARLINGTON RAILWAY COACHES.

INCREASED ACCOMMODATION.

Separate Engines having been appointed for the Conveyance of Passengers and Merchandize, and a Coach attached to the latter Train, the Opportunities of Communication between the Towns of Darlington and Stockton are doubled, and between Darlington and Shildon they are now four times a day.

DARLINGTON & ST. HELEN'S AUCKLAND TRAIN.

Fares: Inside, 1s. 6d.—Outside, 1s. 3d each way.

STATIONS.	TIMES OF STARTING.	STATIONS.	TIMES OF STARTING
From Shildon, at -	5 o'clock.	From Darlington, at -	half past 8 o'clock
St. Helen's Auckland	quarter bef. 7 "	Do - -	half past 1 "
Do. - -	11 "	Do. - -	half past 5 "
Do. -	quarter bef. 4 "	Do to Shildon -	8 "

From the LANDS at a quarter past 6 in the Morning, and from DARLINGTON to the LANDS at half past 5 in the Evening.

N. B. The Train will leave Shildon half an hour after leaving St Helen's Auckland A CAR from Bishop Auckland to St. Helen's or New Shildon, meets each of these Trains in going and returning.

Fares to Shildon: Inside, 1s.—Outside, 9d

DARLINGTON AND STOCKTON TRAIN.

First-class Fares: Inside, 2s.—Outside, 1s 6d, each way.

Second-class, or Merchandize Fares: Inside, 1s. 6d.—Outside, 1s, each way

* From Darlington, (Merchd.) at	half past 6 o'clock	From Stockton, at -	quarter past 7 o'clock
Do. - -	half past 8 "	Do (Merchandize)	9 "
† Do. (Merchandize)	11 "	Do -	quarter bef. 12 "
Do. - -	half past 1 "	Do (Merchandize)	1 "
Do. (Merchandize)	3 "	Do - -	quarter past 4 "
Do - -	half past 5 "	Do (Merchandize)	half past 6 "

On MONDAYS and WEDNESDAYS, a Second class, or One Shilling Carriage, will accompany the First-class Coach Train.

STOCKTON AND MIDDLESBRO' TRAIN.

Fares: Inside, 6d.—Outside, 4d., each way.

From Middlesbro' at -	half past 6 o'clock	From Stockton, at -	half past 7 o'clock
Do - -	half past 8 "	Do. - -	half past 9 "
Do. - -	11 "	Do. - -	half past 11 "
Do. - -	half past 12 "	Do. - -	half past 1 "
Do - -	2 "	Do - -	half past 2 "
Do - -	half past 3 "	Do - -	half past 4 "
Do. - -	6 "	Do -	half past 6 "
‡ Do. - -	7 "	Do. - -	half past 7 "

All the Darlington and Middlesbro' Trains are in immediate connexion with each other, excepting those marked thus *

The MERCHANDIZE TRAIN will be allowed from One and a Half to Two Hours between Darlington and Stockton, whilst various applications having been made by Gentlemen in the Neighbourhood, to have the Coach Trains expedited and improved, Arrangements have been made to run the Darlington and Stockton Trip in FORTY FIVE MINUTES, a New Engine and Outside Coach are provided, and the Fares now charged for this Class are consequently about on the par of other Railways.

FAC-SIMILE (REDUCED) OF ADVERTISEMENT OF STOCKTON AND DARLINGTON TRAINS IN 1836.

While gossiping about old time-tables it is appropriate to mention some of the old stations at which

they were perused in a hurry. A Liverpool station in 1850—though "Drake's Road Book of the Grand Junction Railway" states that at that time the city by the Mersey had busy quays and crowded docks—does not give such a bracing picture of life, bustle, and business energy as Lime Street Station in 1893. Passengers were in 1845, according to the illustration, going with quick step to catch the train at Peterborough; but there is evidence in the scene outside the station that the coaching days still lingered, and that the family carriage had not been discarded by the squire. Peterborough has since become one of the most important railway avenues in England; and John de Sais, the Norman abbot, if he had been engaged in building the cathedral now, would have marvelled at the daily throng of people, and the train-loads of coal that are ever crossing "the frontier" at this place of exchange and transit. There has, too, been railway improvement at the beautiful city of Norwich and in the boot-making centre Northampton; but no express has yet gone through the latter town at the pace attained by the late Mr. Bradlaugh's thought and utterance.

CHAPTER XXXII.

THE REVOLUTION IN RAILWAY FARES.

Free Travel—The Old Parliamentary Train—A Lesson in Patience—An Enterprising North-Western Train—The Midland Fare Policy—Sir James Allport on Journeying—An Old Train Speed—Tribute to a Useful Life—The New Manager of the Midland—The Third-Class Gold Mine—Remarkable Expansion of Traffic—Threatened Extinction of First-Class—Clinging to the Second-Class Fare—What Railway Men Think and What the Railway Companies are Doing—The Sort of "Goods" to Carry.

THE tendency in English political and social life is towards freedom—free speech, free libraries, free parks and museums, free education, free dinners; and it would have been strange and little in accord with what Mr. Goschen calls our "imaginative foresight" if no one had suggested free railway travel. The bold proposal has been put into cold type, however, one writer taking much pains to show that the time has come when the State should acquire the railways for the purpose of making them free to the use of the public, and that the project would prove a saving to the nation; that shameful waste would be avoided by paying traffic expenses out of rates and taxes, instead of fares; and that free travel would mean a healthier people, inasmuch as it would provide an easy and pleasant remedy for the overcrowding in our great cities.

Lord Derby did not go quite to this length.

Dealing with the suggested purchase of railways by the State, in a speech he made at the Society of Arts on June 13, 1873, he said the public had no security that railways would not be superseded like coaches and canals, for the inventive power of the human mind was unlimited. "What," he asked, "would have happened if the Government of the day had bought up stage-coaches and canals?" The State administration of railways would, he added, put the Government in possession of a powerful engine of corruption. Nevertheless, he thought, in the future the question of the State purchase of railways would be worth considering.

The State, in the guise of a philanthropist, eager to give us free travel, and also to sweep squalor, vice, and despair from reeking courts, makes a splendid figure. Notwithstanding Mr. Gladstone's saying that "it is the business of a Government not to trade, but to govern," and uninfluenced by the annoyance of railway directors and shareholders, the State may enter upon this herculean task, for no change seems too drastic in these days of political, industrial, and social revolution. But it is doubtful whether travel, and especially free travel, worked by the State would be such a blessing and monetary relief as some imagine; whether the State would not bungle this vast enterprise, and whether, in the just application of the restrictions and penalties it has imposed with regard to the transit of goods and the safety of the passengers, it would not be in quite as

awkward a position as the Mikado's Lord High Executioner, who was brought face to face with the embarrassing duty of punishing, and finally executing, himself.

The most profitable passenger is the third-class passenger, but formerly he received little consideration. The parliamentary train, by which he was graciously permitted to travel, lacked speed and vigour. It went slowly, and needed frequent rests. "Neither through tickets nor through journeys could be taken, and travellers had to get forward as best they could by a series of fragmentary journeys over the lines of different, rival, and often conflicting companies." The third-class passenger had no social position on the railway, and he was often handled as roughly as merchandise. He looked with a feeling akin to awe on the luxury of the first-class train, for the convenience of which he was nearly always ignominiously shunted. He had practically to touch his cap to the first-class traveller. There was almost as great a gulf between the one and the other as between the agricultural labourer and the squire or the parson. Both had to wait on their "superiors," or, to paraphrase the words in the Catechism, "to order themselves lowly and reverently to all their betters." Indeed, it is related that a parliamentary train was once delayed so long at Darlington that the reverence of the passengers for the upper classes was transformed—so unreasonable is human nature—into rage, and they indignantly complained that at

FIRST, SECOND, AND THIRD CLASS TO THE DERBY IN 1845.

that rate they would never get to their journey's end; but the porter was cool and contemptuous, and said: "Ye mun bide till yer betters gaw past; ye are only the nigger train!"

The third-class passenger for a long time had to be content with a truck-like carriage, with low sides, and seldom roofed. How he had to go to the Derby in the early days of the railway, if he did not go by road, may be seen from the illustration on page 165. It is the Midland Railway Company that have always taken the most interest in the third-class passenger. On April 1st, 1872, they began to run third-class carriages by all trains. The bold step was viewed by many a railway magnate as suicidal, and the company were actually besought to reverse their policy. Sir James Allport, then the general manager, received the influential hint respectfully, but he did not budge. The rugged face that surmounted his tall form was not mobile; but it was not a comprehensive index of his mind. Ever since he began his career on the Birmingham and Derby Railway, all through the railway mania, and during his long and clever management of the Midland, he was quiet in manner, actuated by a sense of right, polite but resolute, and not accustomed to let the mere money-maker have things all his own way. After half-a-century as a railway worker, he retired in 1880 from the position of general manager, and was presented by the shareholders with ten thousand pounds, and made a director; but, much as he valued

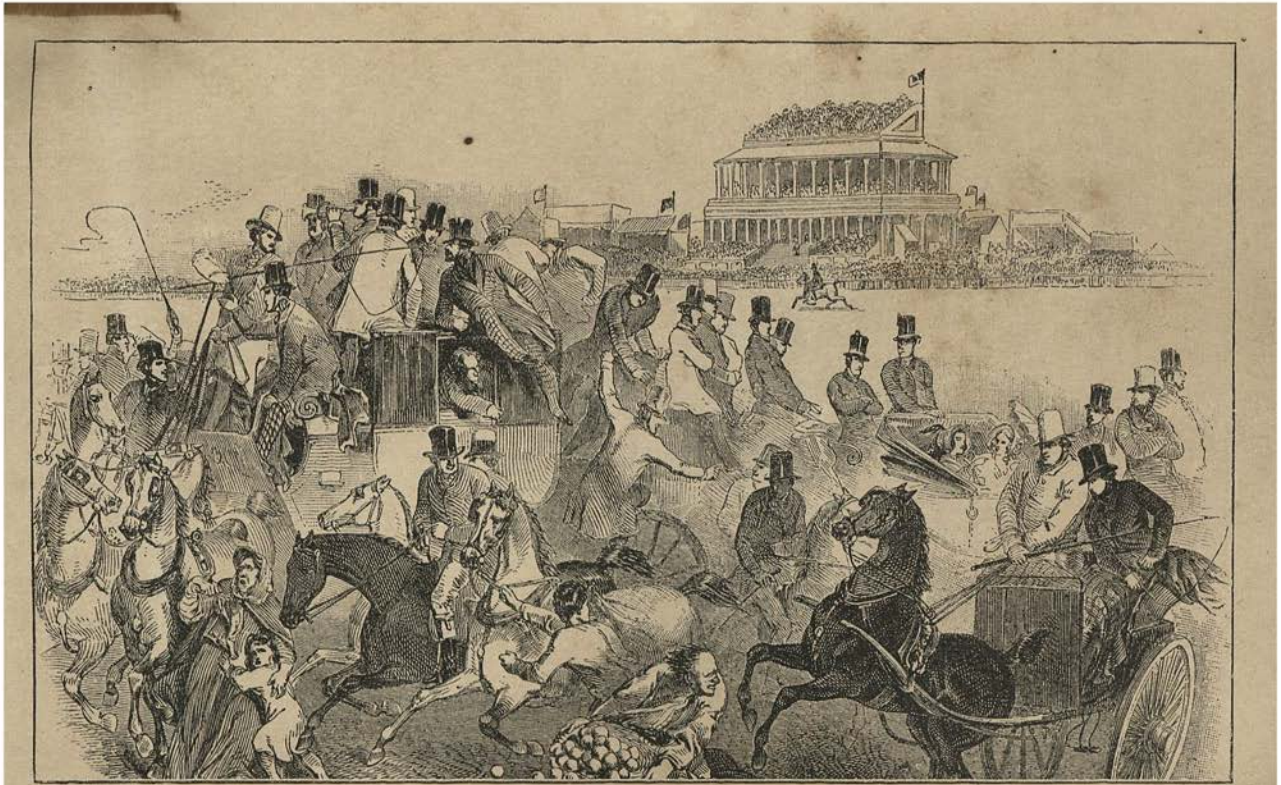
these recognitions of his earnest work, he was proud of his knighthood, conferred upon him in 1884, not for political toadyism, but for saving the time of the poorest, and insisting that they should travel with cheapness and comfort. "If there is," he said, "one part of my public life on which I look back with more satisfaction than on anything else, it is with reference to the boon we conferred on third-class travellers. I have felt saddened to see third-class passengers shunted on a siding in cold and bitter weather—a train containing amongst others many lightly-clad women and children—for the convenience of allowing the more comfortable and warmly-clad passengers to pass them. I have even known third-class trains to be shunted into a siding to allow express goods to pass. When the rich man travels, or if he lies in bed all day, his capital remains undiminished, and perhaps his income flows in all the same. But when the poor man travels, he has not only to pay his fare, but to sink his capital, for his time is his capital; and if he now consumes only five hours instead of ten in making a journey, he has saved five hours of time for useful labour—useful to himself, his family, and to society. And I think with even more pleasure of the comfort in travelling we have been able to confer on women and children. But it took twenty-five years to get it done."

In the year of his knighthood, he had further honour conferred upon him by his friends and

colleagues of the Midland, who entertained him at dinner, and presented him with an address which showed how great was the esteem in which he was held by those among whom the great part of his earnest life had been spent.

For nearly six years Sir James Allport continued a conspicuous and respected figure on the directorate of the Midland, giving the company the benefit of his shrewd counsel. He lived to see the jubilee of the railway of which he was practically the father, and to see the jubilee also of the Clearing House, in the establishment of which he took so much interest, and he lived to see a great development on every side of train services and train speeds; but he was not amazed at any modern acceleration of travelling, quietly remarking that on February 26th, 1848, express speed was not unknown in England, inasmuch as on that day, at the request of Messrs. Smith and Son, he sent a train, with newspapers containing a report of the Budget speech, from London to Newcastle in nine hours and seven minutes, the train travelling at the rate of fifty miles an hour. Sir James Allport outlived his old chairman, Sir Matthew Thompson, six months, and died—full of years and honours—on April 25th, 1892, at the Midland Grand Hotel, London, practically on the premises of the company for which he had so long and worthily toiled.

Mr. George Ernest Paget, the chairman of the company, gave graceful tribute at the next shareholders'



DERBY DAY IN 1845.

meeting to their old director's sturdy character and personal worth, remarking:

"We mention in the report the death of Sir James Allport. He has been intimately and universally identified with the Midland Railway for a very long period. Sir James joined the Midland Railway service in 1839, or, I should say, he joined the service of the Birmingham and Derby Railway Company, which was then only forty miles in length, and had a capital of about one million and a half. Sir James lived to see the system of the Midland Railway Company grow up around him until at length it had a mileage of something near 1,500 miles, with a revenue of £9,000,000 per annum, and with a capital of £100,000,000. While I should be very far from wishing in the slightest degree to disparage, or to take away from the services which others have rendered to the Midland Railway Company, still I think it is without doubt that, had it not been for the very far-seeing policy, and for the indomitable perseverance and energy of Sir James Allport, the Midland Company would not now be in the very prominent and independent position which it occupies. While that is the case as far as the Midland Company is concerned, I think that you will agree with me that the British nation itself is indebted to Sir James Allport, more than perhaps anyone else, for the policy of accommodating and encouraging the third-class passengers."

The Midland Railway have in Mr. G. H. Turner, the new general manager, a man of great business capacity and ceaseless effort. His rise has been rapid. His first practical connection with railway working was in 1853, when he joined the Midland Railway at Bristol. From the old city by the Avon he climbed gradually northward, improving his position at Birmingham, at Nottingham, and at Derby, so mingling courtesy and consideration with trade insight and unremitting work that he found himself popular. Then he broke away across the border; but at the

end of two years in Scotland as goods manager on the Glasgow and South-Western, he returned to the Midland, and in 1891 was practically appointed to the position of general manager of the company.

Congratulation on his success was sincere, and it was accompanied by generous gifts. He said that his progress reminded him of a romance; but, after all, it was a romance of the old-fashioned type, such as Richardson would have written, a romance of honest struggling, and of virtue rewarded—a refreshing romance in these days when sterling, unassuming merit does not always get recognised, when the shallow and conceited swagger to the front, and the charlatan is often taken at his own estimate by a world too busy to inquire about him. "George Turner," writes a railway man, "may be safely left to consolidate and extend the work initiated by James Allport."

It has, in connection with this work, been my good fortune to have considerable communication with the general manager of the Midland. He has no sinecure. He is up to the eyebrows in business. Last year I went down to Derby to see him, in the old offices, bordering the station platform. There was a crowd of people in the ante-room, where clerks were busy appeasing discontented customers by letter, and the directories and railway books stood in rows over the fireplace, apparently in the same order they occupied years ago when I went down to see Sir James Allport with regard to the guards' strike. An architect with his plans, a deputation seeking a branch

line to their village, the general manager of another line—altogether a score of people were waiting. The door was incessantly on the swing as officers went in and came out. There were the voice of the telephone and the ring of the electric bell.

I sent in my card, and at last my turn came. I was heartily greeted; and I found that Mr. Turner, though he gave a gesture of half-mock despair, at the thousand things he had to do, was really more skilful than Sir George Findlay. It was the latter's motto to "do one thing at a time:" Mr. Turner could easily do three things at once, reminding one of the smuggler in the play, who found it possible to hold a sword in each hand and a pistol in the other. He had his luncheon in one hand, and a bundle of papers in the other, so that he was building up his own system while extending that of the Midland; and he managed meanwhile to take an interest in the object of my visit, and to promise and arrange for the information I sought. Yet it was an unusually busy day even in his busy life; for not only had he to dispose of the "Oh, I-must-see-him" group in the ante-room, and of the shoal of work on his table, but to travel to Scotland that night, with the directors, who had decided to go over the Glasgow and South-Western system, with the intention, perhaps, of ultimately merging it into the Midland.*

* As indicating Mr. Turner's alertness in railway management it is worth recording that he has prepared a charming little book, styled "Visitors'

Sir James Allport's concession to the third-class passenger turned out a good thing for the company and a great convenience to the public. By permitting him to travel in any train there were fewer empty compartments, and less wear and tear of rolling stock. Some of the old parliamentary joggers, that wheezed, and clattered, and jolted from station to station, were taken off the line altogether, and the total mileage much reduced. The company obtained 2,000,000 additional passengers in the first year of the concession, with £220,000 additional receipts, and they saved £37,000 through the more general use of their trains. The reform, so satisfactory in its results, encouraged the company, three years afterwards, to venture upon even a bolder course. On January 1st, 1875, they practically wiped the second-class passenger out of existence on their line. There were no longer any second-class fares or second-class carriages on their system. They eased the first-class fares, and at the same time improved the third-class carriages, making them with separate compartments, cushioned seats and backs, hat racks—converting them, in fact, into quite as comfortable coaches as the second-class. The innovation startled many. It was styled a revolution, a mistake, a nuisance. It was asserted that it would lead to the extinction of that "powerful middle-class" to which Lord Beaconsfield paid a compliment

* Souvenir of the World's Fair, Chicago, presented by the Midland Railway Company of England" to travellers between the Old World and the New, and giving a pen-and-picture description of the Midland route from town to the Mersey.

in his novel "Endymion." One journal went so far as to say that "it would inflict great annoyance on every lady, and some annoyance on every man with a black coat, who travelled by that system." Sir James Allport was characterised as the "Bismarck of railway politics;" and the plutocracy shook their heads, thought the Midland directorate had gone mad, and that they were courting financial ruin. But what has been the result? Not financial ruin; but the most conspicuous prosperity.

In the lifetime of the present generation there has been an enormous increase in the number of passengers travelling on home lines. The report made to the Board of Trade in 1890 stated that "in the last ten years the total number of passengers carried yearly, exclusive of season-ticket holders, has grown from just under 604 millions to 817¾ millions, the third-class having increased in the same time from 500 millions to over 724½ millions. The figures as to third-class traffic continue to give proof that in affording increased and improved accommodation for this class of passengers the railway companies have benefited their own shareholders as well as the travelling public." Mr. Giffen and Mr. Hopwood have a similar story to tell in the report they issued in August, 1893. They hazard the opinion that the railway companies are really doing more work for less money than formerly; but state that what attracts attention in the mass of statistics they have marshalled to ascertain the cost of working, and the

profit obtained on our railways, is "the enormous preponderance of the third-class traffic, the increase of over 20 millions in 1892 following, as it does, increases of 27 millions in 1891, 42 millions in 1890, and 33½ millions in 1889. Since 1888 there has been an increase of 122½ millions of third-class passengers," and the following array of figures is eloquently indicative of the growth of this traffic in the past three years:—

	1890. No.	1891. No.	1892. No.
First-class	30,187,000	30,424,000	30,602,000
Second-class ...	62,860,000	63,378,000	61,848,000
Third-class ...	724,697,000	751,661,000	771,985,000
Total.....	817,744,000	845,463,000	864,435,000

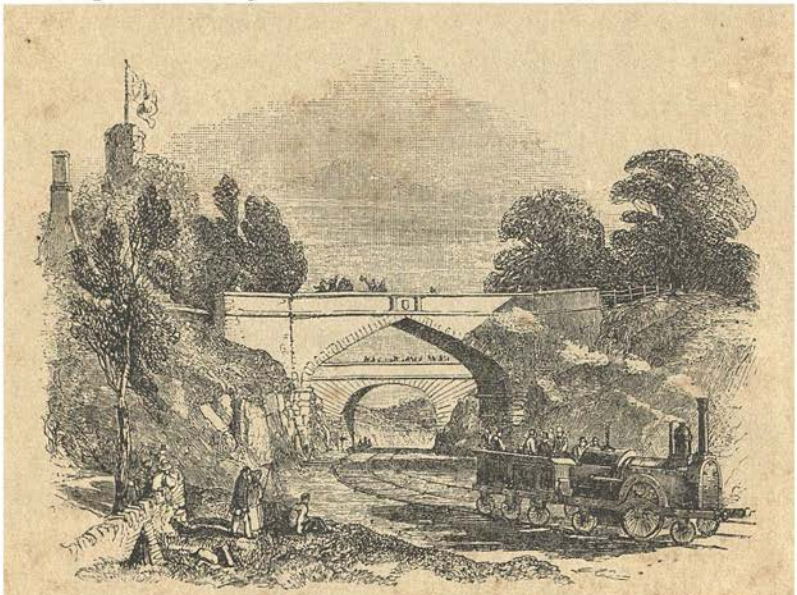
The Midland Company were the first to discover that the third-class passenger was the life and soul of the English railway, and they have reaped the most benefit from accommodating him. It is a significant fact that in the first half of 1891, when coal was high in price, when labour was dearer owing to shorter hours or wage concessions, when goods traffic was shrinking and railway stocks depressed, the Midland alone of the great railway companies were enabled to give an increase of ¼ per cent. in the dividend, chiefly because they were no longer dragging second-class carriages at their heels, but steadily developing their third-class traffic, which showed an increase in receipts for the six months of nearly £12,000, while the increased gain on the first-class

traffic in the same period amounted to the trifling sum of £92.

The prosperous working of the Midland during this particular half-year, with its many grave difficulties, aroused a good deal of comment in the railway world. The secret of the success was attributed to the profitable character of the third-class traffic, and there were all kinds of rumours in the air as to contemplated reforms by other companies. It was even said that the extinction of the first-class passenger was at hand. The statement was perhaps a little premature; nevertheless he is on his probation. He exists rather by the courtesy of the companies and the dignity of his deportment than as a profit-making institution. Probably he knows how slender is his tenure, for he does not presume so much on his position as formerly. He no longer "insists on a seat for which he pays, and another for his feet for which he does not pay." He does not, except in a few instances, sprinkle his rugs, shawls, and newspapers everywhere as if he had engaged the entire compartment, and he does not now make it an absolute condition of travelling that a through carriage should be specially run out of the shed, and coupled to the train, for his use only. But on some lines he is treated more luxuriously than ever; perhaps because his life, as a first-class passenger, is likely to be a short one.

The falling receipts for first-class and second-class passengers point not only to the universal abolition

of second-class fares, but to the ultimate abolition of first-class fares also, to the time when all lines will provide only one class of carriages, spacious,



BIT OF THE CORK, BLACKROCK, AND PASSAGE RAILWAY IN 1850: DUNDANION.

well-appointed, comfortable, at a still cheaper rate—when all our trains will run, so far as fares are concerned, like tramcars and omnibuses, with every compartment open to all at the same price, unless special accommodation at a special fare is desired. Or it may be that the zone system, which works profitably on the Continent, and is now on trial in Ireland, will be adopted.*

* The zone system was adopted on the Cork, Blackrock, and Passage Railway on May 1, 1891, the distance being considered one zone. The fares

In the meantime there has been some concern on the boards of the various railway companies with regard to the second-class traffic. There is no doubt it is doomed; but there are directors who are loth to see it die. Sir Richard Moon, who maintains his interest in the London and North-Western, though he has ceased to be chairman, does not think the abolition of the second-class fare either necessary or politic. He clings to that highly respectable fare as tenaciously as one would to the old house in which he was born, or to an old book, or an old friend. "Upwards of three million people," he wrote in the autumn of 1891, "are willing to pay an extra price for a little extra accommodation in second-class compartments, and if they cannot have it will travel third-class at a lower price. Why should we inconvenience them, and refuse their extra pay? It is, in fact, a mere question of management, of accommodating the number of compartments to the probable number of occupants, and this has been done at Euston for years." But, with all respect for Sir Richard Moon, it will not be done at Euston much longer. The fate of the first-class and second-class was foreshadowed even by Sir George Findlay, who wrote: "The companies have spent and are spending large sums of money in providing the most

were small, and in the first month there was an increase of 2,500 in the number of passengers. In the summer of 1892 the chairman said the directors were satisfied with the experiment—that the zone system was admirably adapted to the requirements of the company and to the convenience of the majority of the travelling public.

luxurious accommodation and every facility and convenience for the benefit of the superior classes, but they are doing this practically at their own expense, and it is really the humble and despised third-class traveller who furnishes the sinews of war! While it may still be profitable to carry first-class season-ticket holders or passengers by local and suburban trains, it may well be doubted whether upon first-class passengers carried long distances by express trains there is any profit at all."

What does this statement really mean? That there is little to choose between the first-class passenger and the second-class passenger. They are not profit-yielders. They are more or less a drag on the dividend. But the London and North-Western do not like to abandon their old-fashioned style of three classes. At the meeting in the spring of 1892, Lord Stalbridge, the new chairman of the company, said in the passenger receipts there was one peculiar feature—that the first-class traffic had still decreased, while in the second-class they had carried more passengers, but received less money. The latter fact was accounted for by the large increase in the number of passengers carried to and from Rock Ferry in connection with the Mersey Railway, for which they only received one halfpenny per head; but it appeared that the second-class traffic had still some vitality about it. The directors, he added, saw that the abandonment of this traffic must result in considerable loss, and they had decided at present not to interfere with it.

A significant confession was made at the meeting in August of 1893 by Lord Stalbridge. The company, he said, had built fourteen new second-class carriages, because so long as they carried a million and a half second-class passengers, they must provide coaches for their accommodation; but these carriages were constructed with a view to easy and cheap conversion into third-class when the millennium prophesied by one of the speakers came. The approaching demise of the second-class traffic fills the hearts of the directors with sadness; and the chairman, while admitting that during the last half-year they had carried 1,165,732 more third-class passengers, yielding £40,000 additional receipts, gravely remarked that "the average receipt per passenger was rather less, pointing to shorter journeys and bad times." The probability is that though the second-class will obtain a little longer on the North-Western, the company will presently drop their second-class fares without a word, and astonish their third-class passengers by the provision of carriages more comfortable and luxurious even than those they now run.

LORD STALBRIDGE.
(From a Photograph by the London Stereoscopic Company.)

Other railway companies have been guided by the Midland rather than by the London and North-Western on this point. The second-class passenger made some protest when his particular conveyance was placed in the third-class rank. He expressed himself eager to pay the extra fare in order to escape contact "with workmen covered with lime and clay" and "hawkers carrying stale fish," and generally demanded protection in his railway travelling from "dirt, overcrowding, and rowdyism." But on many lines the second-class carriages have, nevertheless, been abolished, and the fastidious second-class passenger, finding that he gets in the modern third-class carriage accommodation as excellent as that he obtained in the old second-class coach, and at a less price, has adapted himself, without further grumbling, to the new conditions of travelling.

The Manchester, Sheffield and Lincolnshire Railway Company were the first company to follow the example of the Midland, abolishing the second-class fares on some parts of their system—as a prelude to total extinction—on April 1, 1891. On November 1 in the same year the Great Northern Railway Company took a similar course. In the same month the Marquis of Tweeddale wrote: "We have practically abolished the second-class on the trains of the North British Railway Company, and we propose to entirely abolish that class." The railway shareholder is very much like his neighbour engaged in any other business: he does not like to give up a source of income; and though the Midland, the Great Northern, the Sheffield Company,

the Cheshire Lines, and the North British Railway have practically abolished the second-class, some important companies still cling to it.

There was no hesitancy about the passenger-traffic policy of the Great Western. Mr. Saunders, the chairman, said, in February of 1892, that they were always receiving suggestions from ingenious minds as to what they ought to do; but the directors had come to the conclusion that so long as they had five millions of second-class passengers, it would be foolish to abolish second-class. Nevertheless, he admitted that the company were not building so many first-class and second-class carriages as in the old days, and that the great bulk of traffic was drifting towards third-class; in fact, in the previous half-year the increase in the number of third-class passengers had been one million and a-half.

MR. F. SAUNDERS.
(From a Photograph by F. O. Devereux, Brighton.)

The Great Eastern remained in a condition of indecision. Somewhat influenced by the action of other companies, they hesitated to take the step. Lord Claud Hamilton announced that they were paying careful attention to the question of the abolition of second-class carriages on some portions of their line, but, so far as their suburban lines were concerned, the idea would not, he thought, be entertained. But the directors did entertain it; and on January 1, 1893, they declared that the second-class fare was extinct on their system.

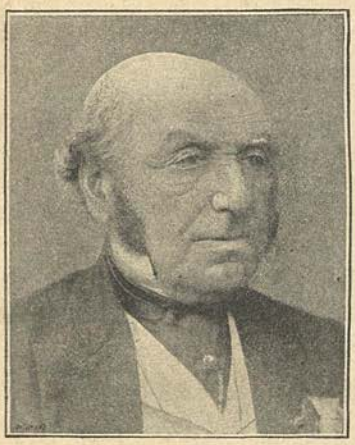
While admitting that the increase of traffic was due chiefly to third-class passengers, Mr. Jonas Levy, deputy-chairman of the London and Brighton Company, said in January, 1892, that there were many objections to the total abolition of second-class on a pleasure line like their own. At least 3,268,000 second-class passengers travelled on their system in the year, and he certainly thought it would be a retrograde and unpopular measure to abolish the second-class, unless the company were prepared to reduce the first-class fare to a second-class level—a step that could not be taken without the most serious thought.

The London and South-Western Company have resolutely made up their minds to retain second-class fares, Mr. Portal telling the shareholders in February, 1893, that the board had no idea of doing away with these fares. Pressed on the subject again at the summer meeting in the same year, he said that while they carried, as they did at present, 4,000,000 second-class passengers annually, they might well hesitate about abolishing this class of fares.

The London, Chatham and Dover Railway, on the other hand, might shunt the second-class carriage into oblivion with profit. The third-class passenger is undoubtedly the dividend-earning traveller on this line. The first-class and second-class passengers are diminishing in number; but though London, so far as road and railway traffic is concerned, is in a fever of competition, with cheap 'bus fares, cheap tram fares, cheap electric line fares, and the privilege of

journeying a long way south of the Thames for a halfpenny, the London, Chatham and Dover Company find their third-class traffic steadily increasing.

The Lancashire and Yorkshire Railway Company, with their cross-country tracks, and chiefly short-distance journeys, are naturally reluctant to abolish the second-class passenger. Mr. Armytage, the chairman, holding that three classes of accommodation are required on the system, does not see why the company should refuse the extra fare the second-class passenger is willing to give, especially as it would mean a loss of £20,000 a year in receipts. In his most recent utterance on this point he says:



MR. JONAS LEVY.
(From a Photograph by Elliott & Fry, Baker Street, W.)

"I do not think the time has quite come for the change. We find the big lines, the Great Northern and so forth, have taken off a good deal of second-class, but they have maintained it in suburban districts, and our traffic is chiefly suburban. I venture to think there are still three classes of people near the large towns. We are so made up of large towns that it would be a dangerous experiment to take this class off, and difficult indeed to put it on again."

The dividends on most of the great lines showed a reduction in 1892, owing to the increased cost of working in the way of shorter hours and better pay

for the servants, to the shrinkage of trade, and, in some instances, to the Durham strike. Lord Stalbridge explained to the shareholders of the London and North-Western that their reduced dividend was also owing to "an entire absence of speculation all over the world, and low prices everywhere." The proprietors of the great undertaking did not derive much consolation from this reference to the causes of the stagnation; and one of them, Mr. Beavis, created a little well-bred surprise among the directors by asserting that the board were responsible for the decreased dividend, owing not only to their obstinate maintenance of a worn-out crotchet in favour of retaining the second-class, but to the fact that the company was the worst of the great railways, except the Great Western, in its treatment of the workpeople of the metropolis, for though the working-class traffic was said to be good and remunerative, yet the board would not cater for it.

MR. GEORGE ARMYTAGE.

(From a Photograph by Arthur Marx, Munich.)

What dread fate would have awaited him if he had dared to utter this heresy during Sir Richard Moon's reign one hesitates to suggest. But, as it happened, his speech did good. It was a strong breeze that blew

away some cobwebs from the minds of the directors; and the chairman, while clinging, as we have seen, to the second-class, said they intended to put on more workmen's trains, and to do all they could to develop this traffic—a policy which, although alien to the aristocratic traditions of the London and North-Western, will give many a shareholder satisfaction. There was irony in the chairman's remark that their line happened to be one not much used by working-men. It was one of Sir Richard Moon's boasts, when he was at the head of affairs, that he "was not a suburban traffic man," and the inadequate provision hitherto made by the company for industrial traffic in town is notorious, the London and North-Western, like the Great Western, not having yet condescended to run many workmen's trains.

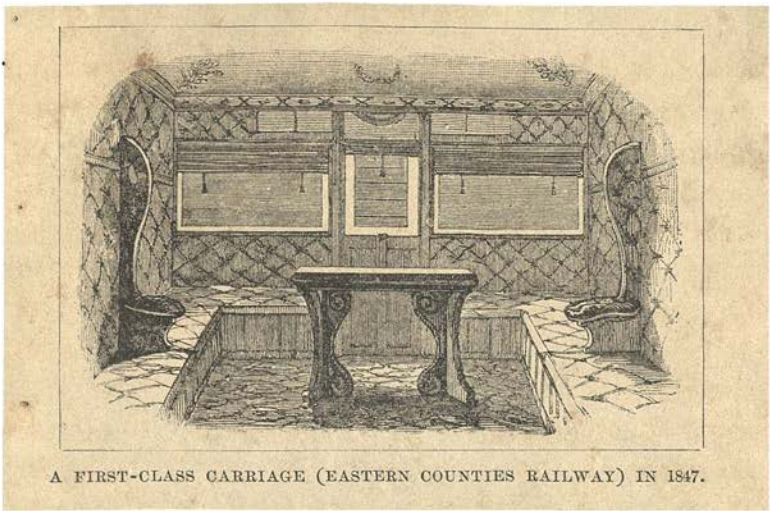
Sir Edward Watkin in July, 1892, told the shareholders of the South-Eastern that they were now carrying more passengers than at any former time, and the reason why they were not receiving much more money was that every one was travelling by third-class. In regard to this matter, too, they had had to follow the example of their neighbours and competitors, and the third-class carriages had been very greatly improved. He frequently travelled in them himself, and saw a good many very respectable persons doing the same; but, of course, if persons who could afford to pay higher fares chose to travel third-class, they had occasionally to put up with certain inconveniences. For instance, a gentleman—a respectable

merchant—the other day wrote complaining that a third-class carriage in which he and some ladies were travelling was entered by a policeman with a prisoner, and that two seats were occupied by these persons.

There was a further abolition of second-class fares in 1893. Not only have the Great Eastern, the North-Eastern, and the Cambrian Railways discontinued them, but the London and North-Western have actually done away with second-class fares on their West Coast route, and on May 1st labelled their second-class carriages running through to Scotland "Third Class." Nor are they likely to regret the step they have taken. Owing to the abolition of second-class carriages on various lines in 1892, there was a decrease of one million and a half in second-class passengers, and a loss of income of £151,000; but the decreased revenue from this source was "largely counterbalanced by the increase of receipts from season ticket holders," and rendered trifling by the increase in the number of third-class passengers, for twenty millions more were carried than in the previous year, and the additional receipts amounted to £407,000. The third-class traffic revenue of 1893 will probably be equally encouraging, after due allowance has been made for the disastrous coal war. The Great Northern, like the London and North-Western, had a gratifying increase in the third-class traffic during the first six months, carrying 624,041 more passengers, yielding £19,872 in additional receipts. The results in the same period

on the Midland were almost equally satisfactory, though obtained in a curious way. The company have created a problem that would have delighted Lord Dundreary. In the half-year ending December, 1892 they carried more third-class passengers by 179,576, and received less money by £4,272. In the first six months of 1893 there was a decrease of 21,278 in the number of third-class passengers, but the receipts were £14,000 more!

It is the policy of the modern Government to propitiate the working man. It is the policy of the modern railway management to propitiate the third-class passenger; and the three great trunk lines north from town are not only prepared to carry him, but to provide him with "rest and refreshment." They have realised that he is really the customer to conciliate. They have tardily taken a leaf out of the book of the district traffic manager who, standing some years ago on the platform "as a crowded train ran in and emptied its passengers, nearly all third-class," said, "That is the kind of goods I like to carry. It loads and unloads itself. It requires no porterage, no delivery. It makes few complaints, and does not get damaged on the road. It gives the very smallest possible amount of trouble, and its station charges are next to nothing. All we want is more of it."



A FIRST-CLASS CARRIAGE (EASTERN COUNTIES RAILWAY) IN 1847.

CHAPTER XXXIII.

RAILWAY CARRIAGES—HOW THEY ARE APPOINTED AND LIGHTED.

Primitive Railway Carriages—A Mayor's Dodge—How Trains are Made Up Now—Danger from an Improvement—The Pullman Car's First Run on an English Line—Carriages of Home Make—Modern Improvements in Railway Coaches—The Seclusion of the Compartment—Communication with the Driver—Telegraphing from a Speeding Train—Door-Banging—The Old Lady and the Foot-Warmer—New Method of Heating Carriages—American Cars on the South-Eastern—A Princely Railway Carriage—The Great Western Corridor Train—Luxurious Travelling—Novel Mode of Train-Lighting—The "Candle Club"—Darkness and Murder—The Oil Lamp—Gas and the Electric Light.

LORD ABINGER laid it down in the Court of Exchequer, during the struggle of railways into public favour, "that it would be a great tyranny if the court insisted that a witness should only travel by the new method, and if he were a witness, in the then state of railways he should refuse to come by

such a conveyance." In addition to the feeling of insecurity that prevailed in the passenger's breast, he had to put up with wretched accommodation. Still he took full advantage of the Englishman's privilege to grumble, and by this means slowly brought about reform. The old waggons, mostly seatless, and open to wind and rain, did not satisfy him. The inconvenience of traversing tunnels, nearly stifled with engine-smoke, and sprinkled with soot, made him indignant, and the railway companies were strongly urged to provide better vehicles, or at all events to cover them in. *Mr. Punch* joined in the passenger's plea and protest, with the following parody:

"Pity the sorrows of a third-class man,
Whose trembling limbs with snow are whiten'd o'er,
Who for his fare has paid you all he can;
Cover him in, and let him freeze no more.
This dripping hat my roofless pen bespeaks,
So does the puddle reaching to my knees;
Behold my pinched red nose, my shrivelled cheeks;
You should not have such carriages as these."

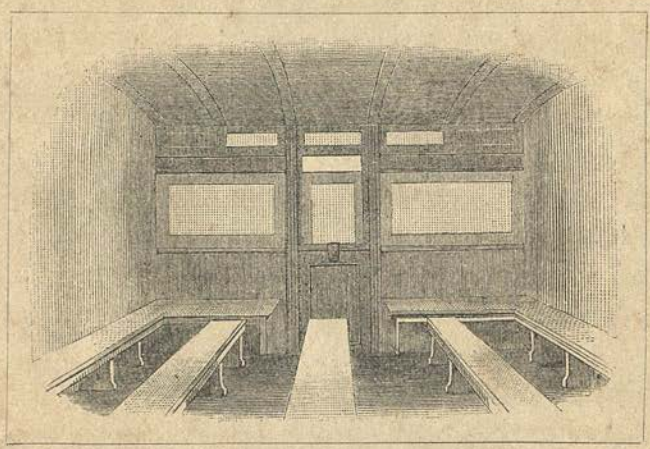
By-and-by the carriages were covered in, and fitted with benches and toast-rack backs, that left the entire vehicle a roaming-place to all the passengers, and fostered indulgence in the game of leap-frog, men climbing over the partitions to get more comfortable seats or gossip with their friends. The first-class carriages, as may be seen from the illustration on the preceding page, were fairly comfortable, though prim and straight-backed; but the traveller in the

second-class or the third-class was usually discontented, and apt to complain that he got more jogging than comfort for his money. Perhaps on this account he had less scruple in attempting to defraud the railway company. Anyhow, there was a spirit of scheming abroad.

The effrontery of the passenger was not so glaring as that of the betting men who in 1891 went to the booking-office at Sheffield and stole a bundle of tickets to take them north to Ayr races; but occasionally he tried to hoodwink his carriers, to travel without paying his fare, and to sneak out of the compartment, sometimes eluding the detective's searching gaze and adroit grasp. He was not always so fortunate, however; and the passenger without conscience, who thinks it no sin to travel without paying his fare, or to ride to and from business with a phantom season ticket, has afforded a good deal of amusement to the public, and considerable trouble to the railway companies, and work for the magistrates.

One of the most curious stories that have sprung out of this tendency to defraud has reference to a magistrate himself. "The first compartment of the leading carriage in the first-class trains—the post of danger, and therefore, perhaps, the post of honour—was some years back, according to a practice which had sprung up, reserved for servants in attendance upon their employers, who were thus allowed to travel by first-class trains at second-class fares. It is related that the mayor of a certain borough in the South of England, travelling with his daughter twenty years

of age, conceived the idea of passing himself off as her attendant, and thus effecting a saving of three shillings in his fare. Placing her alone in a first-class carriage, he obtained a servant's ticket, and betook himself to the servants' compartment. Unfortunately,

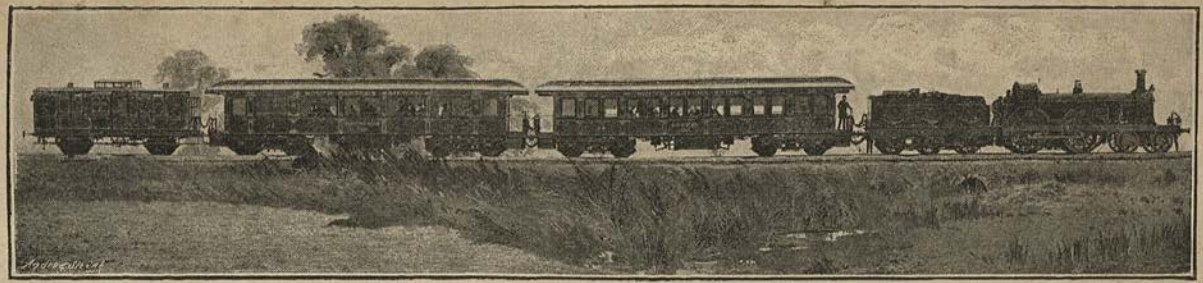


INTERIOR OF A SECOND-CLASS CARRIAGE (EASTERN COUNTIES RAILWAY) IN 1847.

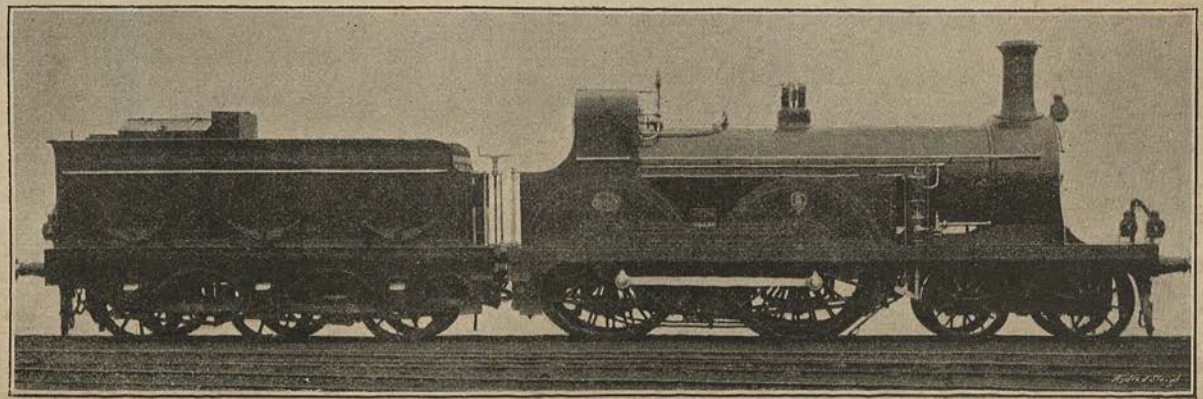
however, for the success of his artifice, the humble traveller was recognised, and the authorities at the terminal station being apprised of the circumstances, he received on his arrival an unpleasant reminder that he had rendered himself liable to a fine of forty shillings, which he was glad to commute by payment of the difference of the fare." *

The old-fashioned practice of allowing travelling privileges to servants has fallen into desuetude, and the modern solicitude for the safety of the passenger

* "Manchester Railways": a reprint from the *Manchester City News*.



From a Photograph by] SOUTH-EASTERN PULLMAN TRAIN. *[Lambert, Weston & Son, Folkestone.*



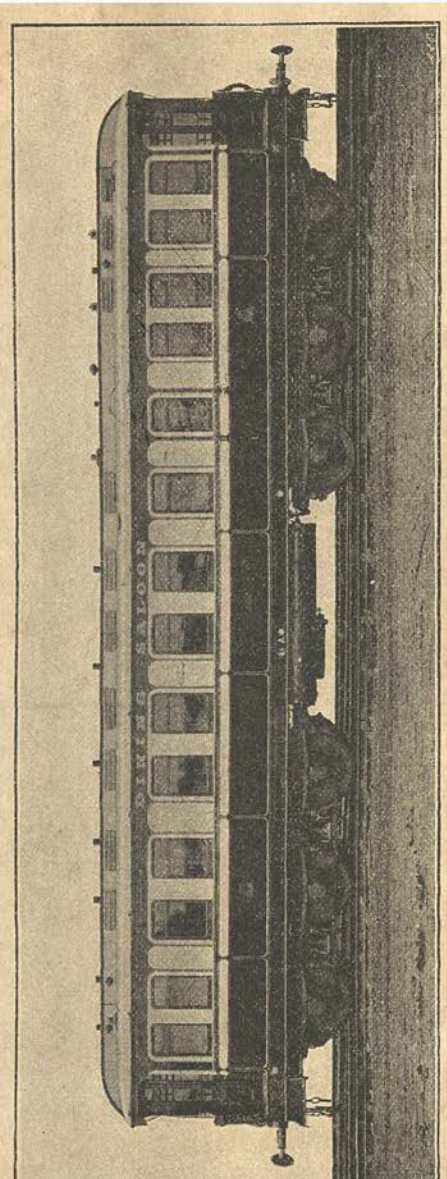
LATEST TYPE OF SOUTH-EASTERN EXPRESS ENGINE (7 ft. driving-wheels), DESIGNED BY MR. JAMES STIRLING.

has wisely ordained that the first compartment of the leading carriage shall be locked and unused. An important regulation is now enforced, too, with regard to the make-up of the train. Many passengers, if obliged to travel by a composite train at all, have been under the impression that it is safest to couple the trucks to the tender, with the passenger carriages running behind the goods waggons, so that "if anything happens" the trucks will bear the brunt of the collision or other mishap. Experts, however, recommend that the passenger coaches should be placed next the tender, with the goods waggons in the rear of the train, the operation of the continuous brake being in that case unbroken. The common-sense suggestion has so impressed the Board of Trade that this make-up of the composite train is now compulsory.

THIRD-CLASS PASSENGERS IN 1844.

Another danger, arising, singularly enough, out of railway-carriage improvement, has been discovered, and, wherever possible, guarded against. The bogie carriage, with its great long body, supported on bed frames that turn beneath it on pivots, can easily run round sharp curves; but the old-fashioned railway carriage, in which all the wheels are fixed rigidly to the frame, finds the track difficult to keep, if pushed

sharply onward by a heavy bogie down a falling gradient, and may be forced off the line. The tail end of a train left the rails at Borough Market Junction, near London Bridge, on January 7th, 1892, and one of the carriages, thrown upon its side, killed a platelayer. The cause of the accident was for some days a mystery. There was no defect in the line, and one hundred and fifty-three trains and light engines had passed in safety round the curve in the twenty-four hours; in fact, there had not been

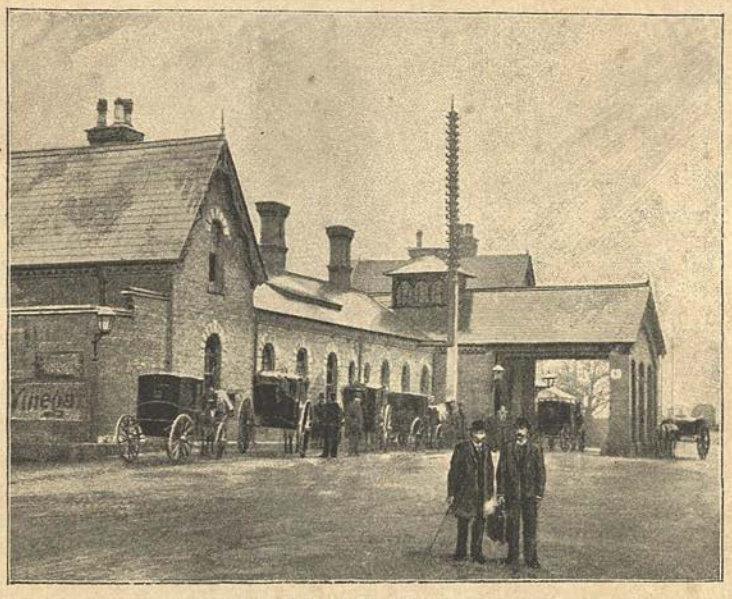


A BOGIE CARRIAGE (LONDON AND NORTH-WESTERN).

an accident on the curve for twenty years. Examination of the track and of the rolling stock upheld Major-General Hutchinson's suggestion that a bogie carriage had pushed a third-class carriage, just half its weight, over the outer rail of the curve; and at the inquiry a recommendation was made that heavy bogie carriages should not be run with lighter coaches on this particular bend. Railway companies are not eager to court accident, and hints of this kind are readily taken. The old jerking, rattling, jumping third-class carriage is not yet extinct; but to the utmost extent, on English lines, trains are now made up of bogie carriages, and drawn by bogie engines.

Travelling has become not only rapid and cheap, but exceedingly comfortable; and while the locomotive designer and constructor have made marvellous improvements in the engine, the carriage-builder has also been busy with brain and hand, and produced travelling coaches that not only run easily, but are elegantly appointed. The Midland Railway Company have given English travellers the luxury of the Pullman cars. Sir James Allport, impressed with their suitability for long journeys during his visit to the United States in 1872, made an arrangement, with the sanction of his board, for the introduction of the cars on the Midland system. The first journey was made on June 1st, 1874, from St. Pancras to Bedford, and the cars were the talk for some days of the railway world. One passenger has given his impressions of travel by this Pullman train:—

"Literally nothing seemed left to desire. Entering the train from one end, you were introduced to the parlour car—a luxurious contrivance for short lines and day travel only. It was a tastefully and richly decorated saloon over fifty feet long, light, warm, well ventilated, and exquisitely carpeted, upholstered, and furnished.



BEDFORD STATION.

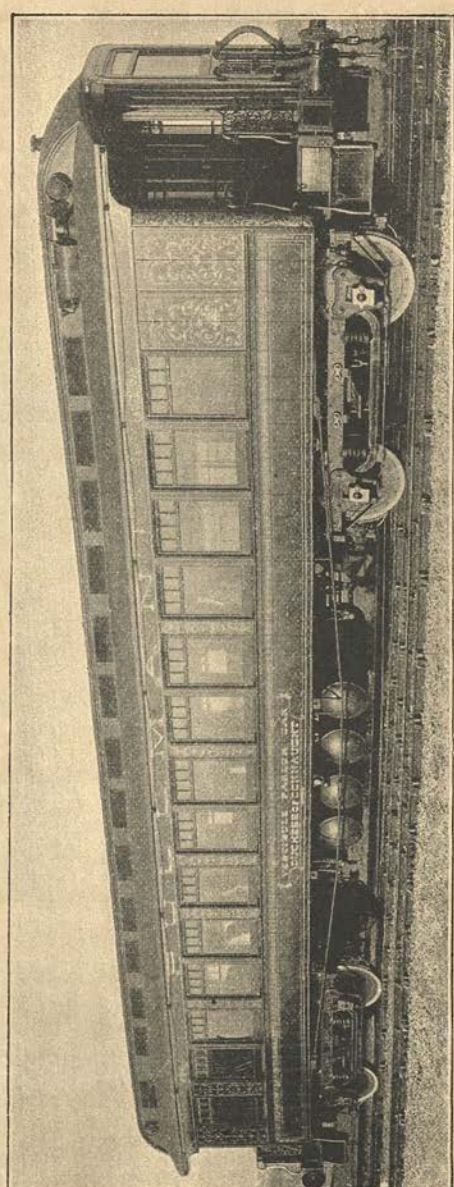
Along each side, and close to the windows, were crimson-cushioned easy chairs, in which, by means of a pivot, you might swing yourself round to converse with your neighbour, or, by means of one of the thousand ingenious contrivances with which the whole train abounded, you might tilt yourself back to the proper angle of enjoyment. The centre is free for passing to and fro. There are various little saloons of the private-box order, in which a family party might make themselves happy. Then you come to the drawing-room, sleeping car, and the long well-appointed saloon, with fixed seats at the window, like short sofas, two and two, and facing each other. Between them a firm convenient table could be planted, and upon

one of them we were able, while the train ran at over fifty miles an hour, to write without difficulty. The tables removed, the seats, lowered to meet each other, became an admirable bedstead; while some beautifully ornamented and finished panels overhead, that appeared to be merely part of the sloping roof of the saloon, were unfastened, and in a moment converted into equally comfortable upper berths. By-and-by the saloon was restored to its normal drawing-room aspect, the tables were again put up, waiters entered with snow-white cloths, pantries and ante-rooms were brought into operation, and there appeared a dining-hall complete in its requirements."

The Pullman train is no longer a novelty, and many passengers have become accustomed to its freedom and its luxury; but, after all, there is an old-fashioned liking for the railway carriages that have been made in English workshops and are the outcome of home design. In fact, the passenger coaches lately placed on various English lines vie with the Pullman cars in the beauty of their appointments and the number of their travelling comforts, and are preferred by numerous passengers because they are so cosy. The new Midland bogie passenger-carriage, with its four first-class and four third-class compartments, with its sycamore woodwork and maple mouldings, its rich cushions, is good enough for a prince; the dining-saloon cars, with their dainty table-d'hôte dinners, run by the Midland and London and North-Western Companies between Manchester and London, combine ease of travelling with epicurean satisfaction; and the "Flying Scotsman," tearing away from King's Cross by Grantham and York to Edinburgh, is made up of carriages well adapted for its long journey,

vehicles that do infinite credit to the Great Northern. Even the third-class carriages are provided with lavatories, and the company, abreast at all events with other leading systems in respect of enterprise, are now proposing to give sleeping accommodation to third-class passengers on the East Coast route.

There is another improvement still required in the compartment railway carriages. The compartments are too rigidly separated. The partitions should be topped with glass, or the



LONDON AND SOUTH-WESTERN PULLMAN VESTIBULE PARLOUR CAR.
(*From a Photograph by Debenham & Smith, Southampton.*)

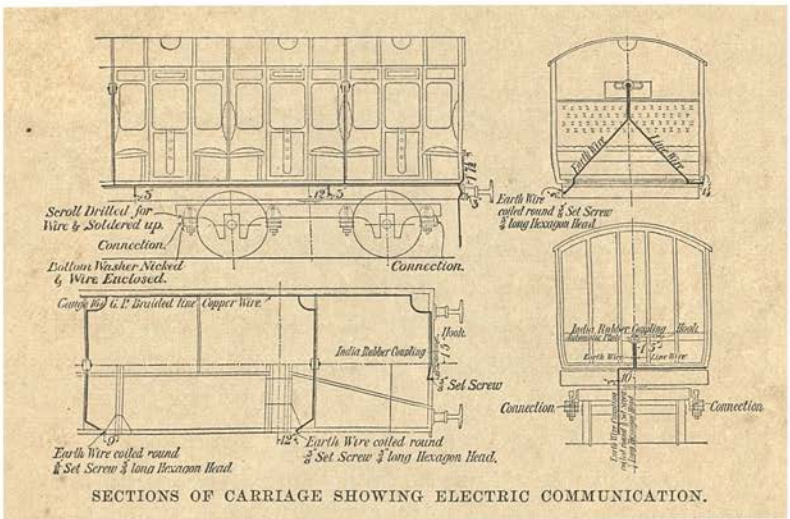
bulkheads removed altogether, so that in emergency passengers might be able to see and communicate with each other. The plan has already been partially adopted on some railways, and if generally carried out would tend to prevent railway tragedy, and check and perhaps put an end to the gross assaults on women and the scandalous blackmailing of men to which the compartment system gives encouragement.

There is an opportunity awaiting the inventor in the present mode of communication with the driver. No doubt often, on a long journey, when you have looked through your daily paper, and ascertained how the pulse of commerce beats, and the political tongue wags, and what new freak crime has been indulging in, and when you have skimmed through the last new book, and stared abstractedly at the rapidly-flitting country-side, and yawned and dozed—your eyes, wandering towards the hat strings in the carriage roof and to the light luggage rack just beneath, you have read the familiar notice:

"To call the attention of the guard or driver, passengers must pull down the cord which will be found outside the carriage, close to the cornice, over the window of the carriage door. There are cords on both sides of the train, but that on the right hand side in the direction in which the train is travelling is the one by which alone the communication can be made"

The communication-cord has been of service in preventing disaster, and in bringing help to defenceless passengers; but it is an erratic and unstable friend, often obstinate and disinclined to work, and

there have been cases in which it has proved grievously useless in time of peril. Surely a more trustworthy communicator could be generally adopted; something in the form of an electric bell, for instance, with the ivory knob at your elbow, a system of communication



SECTIONS OF CARRIAGE SHOWING ELECTRIC COMMUNICATION.

already in use on some lines. By such a method communication would be swift and certain, and the passenger would have no need to stretch himself half-way out of the carriage-doorway in wild attempts to reach the cord, at the risk of having his head knocked off by coming in contact with bridge, or post, or passing train.

"Sir Edward Watkin," says the writer of "Manchester Railways," "has more than once claimed for his company that it was the first to warm the carriages with hot-water tins; the first to take

into Manchester a train to which was applied the communication between guard and driver; and the first to provide cushioned carriages for the second-class passengers and to permit them to travel by express trains. The same company may also fairly claim a foremost place in the provision of continuous brakes in more recent times, and have not been behindhand in the introduction of comforts and conveniences for third-class passengers."

The company further may take credit for another reform—for an improved system of communication between passenger, driver, and guard. A handle is fixed just beneath the hat rack, and immediately the handle is pulled down the automatic brake is applied. The carriage alarm has been officially sanctioned, and is to be brought into general use on the line. It is a development of the method suggested by Lieutenant Le Count years ago, when, urging the importance of communication between the guard and driver, he wrote :

"The guard should have a check-string to the arm of the engine-driver; and a flexible hollow tube should be fixed from the guard's carriage to the engine, through which the men can converse, which the noise of the engine and train will otherwise render difficult."

Science is certainly coming to the help of the passenger in this travelling difficulty. By-and-by, perhaps, he will be able to use the telephone and the phonograph in the moving train, to hold a sort of running comment with friends miles away as he

speeds through the land. Already he is within measurable distance of being able to send a telegram anywhere from the train in which he is travelling. If he has forgotten at King's Cross to telegraph to his partner that business needs him in some distant city; or to his constituents that he is coming down to speak, but must get back for an important division; or to his wife that he is hurrying home to dinner—he will be able to send a message from the carriage in which he sits, to the telegraph wires overhead by the line-side, and the thing will be done!

"At the meeting of the Railway Congress in Paris, an interesting paper," says the *Railway News*, "was read by Mr. W. Pollitt, general manager of the Manchester, Sheffield and Lincolnshire Railway, on the means of communication between trains while on their journey and stations along the line. The main advantages of such a system are that in the event of an engine or train running away, the trains and stations could be simultaneously advised; that trains broken down at out-of-the-way places could stop approaching trains and signal for help; that train despatchers would be in direct communication with all moving or standing trains; and that in the event of an error having been made by a signalman the driver and guard could be warned. There are also, he contends, many commercial and other advantages. Train telegraphy can be accomplished by means of the frictional or direct contact system, or by the induced current method. The frictional systems

are those of Perl and Baillehache, but the inductive systems are, it is claimed, vastly superior in detail, in simplicity, and in economy. The inductive circuit, capable as it is of so many and various practical adaptations, has never been employed in a more ingenious or novel manner than in enabling a code of signals to be passed from a station to a train, without any direct contact, even if travelling at the rate of a mile a minute. To accomplish this with wires specially laid for the purpose is remarkable, but to arrive at precisely the same results by making use of the ordinary telegraphic wires upon which messages are being sent from station to station at the same time is both striking and unique. This system is the joint invention of Edison and Phelps, and has been used in America for the last few years."

Meanwhile, the man of resource who succeeds in inventing contrivances for the noiseless shutting of carriage doors,* and for the gagging of locomotives, so that they may for ever cease their shrieking, will earn the gratitude of the public, and deserve to be canonised. These reforms will no doubt come in time; and when they are introduced, they will make a pleasant climax to the series of improvements that have been effected in modern railway carriages, now fitted with alarm signals, heating apparatus or old-

* The Manchester, South Junction and Altrincham Railway have taken sensible action to check this nuisance. "The company are providing india-rubber stops between the door and body of their carriages running upon this railway, and a most stringent order has been issued to the staff against the slamming of carriage doors."

fashioned foot-warmers, boxes for wax lights, hat suspenders, luggage racks, elbow rests, draught preventers, dust guards, spring blinds, and other devices for ensuring a comfortable journey.

There are ungrateful passengers who have always declined to accept the foot-warmer or hot-water tin as an improvement. Sir Edward Watkin tells a story of an old lady who thought one of these hideous foot-pans was an infernal machine, and actually stopped the train, and insisted upon the removal of the thing from the compartment. During the craze a few years ago for wearing gutta-percha boots the foot-warmer was a source alike of annoyance and diversion: scores of passengers unthinkingly stuck to it. Opinions differ as to when the foot-warmer is the greatest nuisance. It is a terror to a woman with a new dress when it is hot; it is a stumbling-block to a man when it is cold. The only good word that can be said for the foot-warmer is that it diffused what heat it could in its day; but no one will regret that its day is nearly over. More rational methods of making trains comfortable have been devised, and in January, 1892, the Midland "aired" the carriages in their expresses running from St. Pancras to Bradford by means of pipes connected with the engine, and so placed beneath the seats of the compartments that they are warmed evenly, the passenger no longer having "hot ache" in his feet, and anathema at the weather and at the railway company on his tongue.

The South-Eastern Railway Company have attempted to bring carriages on the American pattern into greater popularity. On March 2nd, 1892, they made a trial run from Charing Cross to Hastings with a train consisting of four drawing-room cars, a buffet car, and a smoking car, all built by the Gilbert Manufacturing Company, whose works are at Troy, on the Hudson River. The cars were sent over to this country piecemeal, in six hundred packages, and put together and fixed on American bogies at the works at Ashford. The drawing-room cars have saloons thirty feet long, decorated with antique oak work, and furnished with fourteen revolving chairs and three fixed seats, upholstered in frieze plush of blue and gold. Adjoining each drawing-room car is a comfortable smoking-room, where you may lounge and lazily admire the scenery, or day-dream, or watch the smoke-wreath from cigar or pipe drift with filmy grace into oblivion. The dining car, a little longer than the saloons, has seats and side tables fixed on either side of the central gangway for twenty-eight persons, and at one end is a handsome buffet. Fitted with the electric light, and warmed with the Baker stove, the train, on its trial journey, was like a brilliantly-lighted, sumptuously-furnished house on wheels; and the swift run down to the seaside, a distance of between sixty and seventy miles, was one of the pleasantest ever made on an English line, for the travelling was not only luxurious but easy, the hinged-bridge plates of the gangway connections and the bogies enabling the train to take

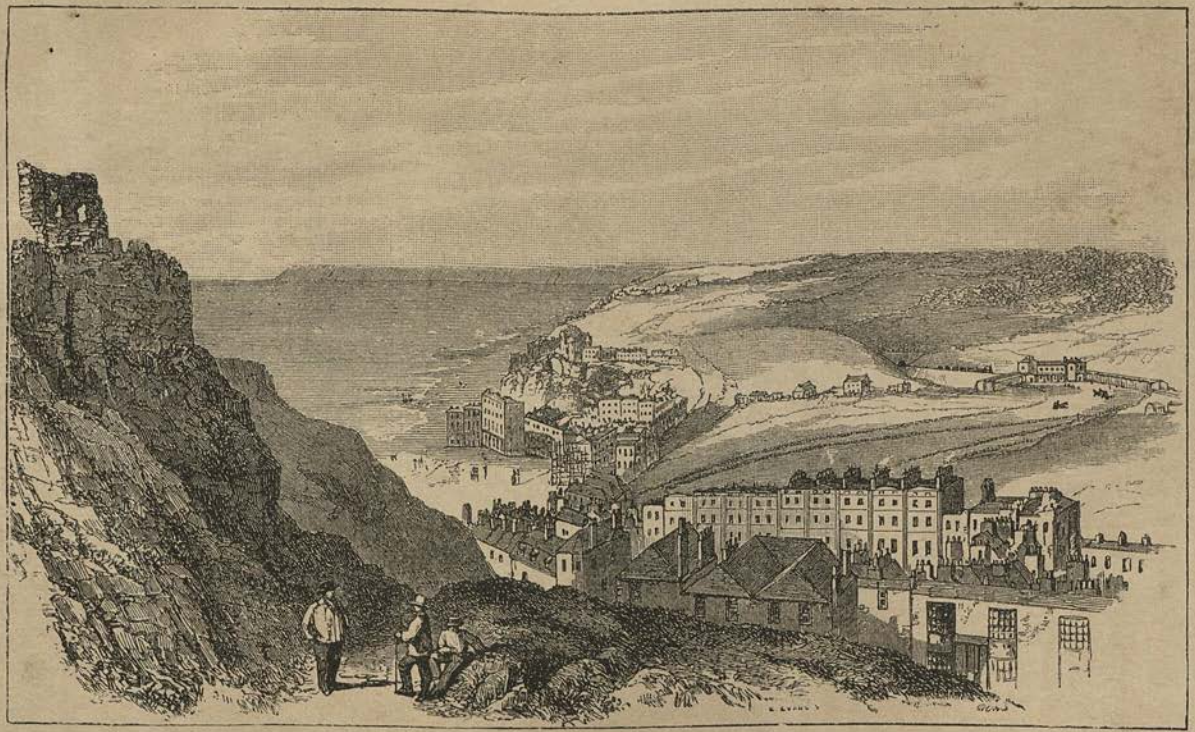
INTERIOR OF A LONDON AND SOUTH-WESTERN PULLMAN CAR.

(From a Photograph by Debenham & Smith, Southampton.)

the bends which occur on this section of the line without jolt, jar, or peril.

The luxury of the American train is to some minds and bodies greater than that of the English express. The London and North-Western, the Midland, the Great Northern, and the Great Western have provided very comfortable carriages, but they have not yet introduced such cars as the one lately constructed for the Montreal and Toronto line of the Central Pacific Railway—a car 66 feet long, with a drawing-room 32 feet long and 9 feet wide, with six bay windows, and a ceiling beautiful with frescoes illustrating the seasons; a car sprinkled with easy chairs by day, and converted into a bedroom at night; a car that contains a private state-room, a library, a writing-desk, a medicine chest, and lavatories so scientifically constructed that on the pressure of a button, powdered soap slides into the richly-ornamented basins!

Many carriages on English railways are unlike this princely car. On the suburban lines, and on some of the northern tracks, scarcely a day or a night passes without fierce growl from some passenger infuriated because there is no foot-warmer, or the compartment is in darkness, or the carriage is only "fit for a cattle truck." But, despite the apparent indifference of some companies to the comfort of their passengers, it must be allowed that there is on our great railway systems an earnest desire towards the improvement of rolling stock generally and the better design and appointment of carriages.



HASTINGS AND THE STATION IN 1852.

A significant example of the keenness of railway competition in this respect was afforded by the Great Western Railway Company five days after the South-Eastern ran their train of the American pattern to Hastings. On March 7th, 1892, the first "corridor train" placed on the Great Western steamed out of Paddington Station on its way to Birkenhead in the

ETCHINGHAM STATION (HASTINGS LINE) IN 1852.

presence of an interested group of spectators. The Great Western carriages are joined together by covered gangways, and, if needful, the guard can make his way along the corridor through the train. The passengers, however, are restricted to the corridors of their own carriages, lest the third-class traveller should take a walking tour into the first-class carriage, and recline on its morocco and broadcloth, forgetful of the fact that he has not paid the first-class fare. There are four

carriages, each fifty feet in length, and they include one second-class carriage, for this company are not unmindful that they still derive considerable revenue from the second-class passenger, and rather flinch from driving him into the third-class. The corridors are at the side

WADHURST TUNNEL (HASTINGS LINE) IN 1852.

of the carriages, and each carriage contains a gentlemen's lavatory, a smoking saloon, four ordinary-shaped compartments, the fourth being reserved for lady travellers, and beyond this compartment the ladies' lavatory. The carriages are warmed by engine steam, and well lighted with compressed oil-gas. There is an electric bell in every compartment, and if you wish to call the guard, you push the button. Nay,

you can not only summon the guard, but control the driver; for a tug at a wire that runs along the cornice will open a valve in the train pipe, destroy the vacuum, apply the brake, and stop the train!

Though the three great trunk lines were traversed in July, 1893, by the new corridor trains, the regular service of these luxurious cars between London and Scotland may be chronicled as really beginning on August 1st in that year. The Midland, the Great Northern, and the London and North-Western availed themselves of all their mechanical and decorative skill in the equipment of these trains, which consist of first-class and third-class dining cars and corridor carriages, so well constructed and so prettily adorned and furnished that each train costs no less than £11,000. The corridor train certainly has added to the comfort of travel. You may dine, take tea, smoke, and stroll through it; and the most testy passenger, after a wholesome luncheon or table d'hôte well served in a brightly-appointed dining car on the north express, is no longer justified in repeating the old reproach about the Silurian age of railway refreshment.

The latest made carriages on all the great lines are, in fact, models of comfort and luxury. The "American Eagle Express," running on the London and South-Western with the liner passengers from Southampton, is a palace on wheels; and the new train on the London and Brighton Railway resembles a lady's boudoir. "The carriages," says the *Daily News*, "are

constructed on what is known as the 'vestibule' system, the three waggons of which the train is composed having covered passage-ways between them. They are fitted with bay windows, and the interiors are

A THIRD-CLASS CORRIDOR DINING CARRIAGE (LONDON AND NORTH-WESTERN).

finished in a style of unusual splendour. Mirrors are all around; the chairs are upholstered in old-gold velvet; the windows are draped with crushed strawberry damask; the floors are covered with Wilton carpets; and the electric light is everywhere."

Perhaps the greatest progress in railway carriage comfort has been in train-lighting. The oil-lamp has swayed, and flickered, and shone in the roof for years, looking down with its feeble but kindly light on many strange sights, realising more vividly even than the passengers that life is one long journey in which through carriages are scarce, and doing its duty in the grim darkness of tunnel and amid the crash of collision until its oil was spent and its light went out.

There was a time when no pretence whatever was made to light railway carriages, and journeys were made chiefly in the daytime. When oil-lamps were introduced the light was so erratic and feeble that it was impossible to read by its aid alone, and here and there one meets even now with old railway travellers who never think of entering a train without their portable reading-lamp, so accustomed have they been to provide their own light.* A novel form of train-lighting was to be seen years ago on the Bolton and Kenyon junction line. The driver of a passenger train on that track has left it on record:

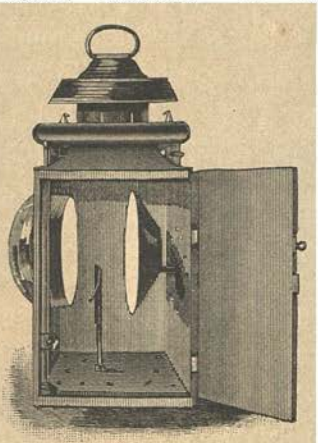
"The lamp in front of the engine used to be a coal fire. A sort of crane with a hook at the end of it stuck out from the buffer-plank, and from the hook hung a fire-grate, about a foot in diameter, filled with burning coal, the same sort that we used for the engine. The draught created by the engine as it ran forward, and as it oscillated from side to side, kept the fire bright, and the ashes dropped on the road. We could see the line well before us. I have ridden on such an engine many a time."

* On October 29th, 1882, a Pullman car, running from London to Aberdeen, on the Midland Railway, was set on fire by a passenger's reading lamp, and Dr. Arthur, a government official from Ceylon, was burned to death.

In another part of this work the author has referred to the "Paddy Mail," the ramshackle old train that conveys the workmen daily from their homes to a Derbyshire pit; but he had no idea until quite recently that the battered conveyance, impregnated with the odour of tobacco, afforded a novel example of train-lighting. When the train goes out in the darkness of the winter morning a light is placed in the brake van. The illumination is not provided at the cost of the railway company. The members of the "Candle Club" find the money. The subscription is not a heavy one—only a halfpenny a quarter; and there is a whimsical rule among the toilers that any member thoughtlessly increasing his subscription shall be fined. Wright, of Derby, the noted painter of candle-light pictures, has, in "The Orrery," given some almost dramatic effects of light and shadow on the features of those listening to the philosopher's lecture; but the brake-van of the "Paddy Mail" would afford even a better subject, with its erratic light, its flare and flicker of candle, on the rough faces of the pitmen grouped about the van stove, listening to anecdote or laughing loudly at story or witticism.

Passengers in the forenoon express from Manchester to St. Pancras, whisking through the tunnels of the Peak, have observed how easily the electric light is turned on as the engine gives its warning whistle and plunges into night, and how deftly it is turned off as the train runs into daylight

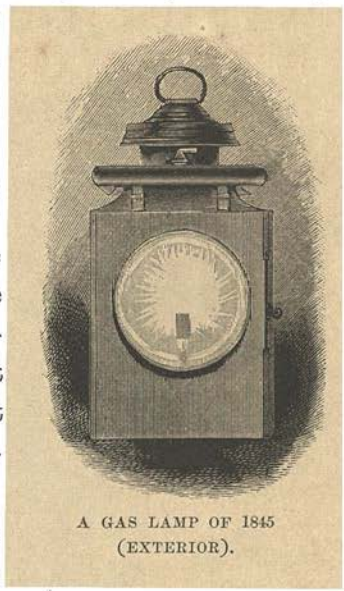
and sunshine again. But until a few years back little or no attention was given to train-lighting in the daytime, and the passengers had to traverse tunnels in darkness with such patience as they could muster. A noted crime did much to rouse the railway companies to more efficient train-lighting—the tragedy in which Lefroy was the conspicuous and notorious figure. "When the Lefroy job was on," remarked a lampman questioned by Mr. Williams on the subject of lighting, "we had orders to lamp some trains by day that go through short tunnels—trains we had never lamped before—and we have lamped them ever since."



A GAS LAMP OF 1845 (INTERIOR).

The railway lamp-man, as you are rushing to catch your train, seems a rather insignificant person, who makes a good deal of unnecessary noise, and continually gets in your way; but in trains yet unlighted with gas and the electric light you would do badly without him, and it is better to grin philosophically as you bark your shins against his lamp barrow on the platform, and forgive the bang you get from the porter's elbow as he catches the lamp thrown from the carriage roof, than to travel in the dark. The old rape-oil lamp, stout and dumpy, that is dropped, amid the clatter of hurrying feet, into the circular

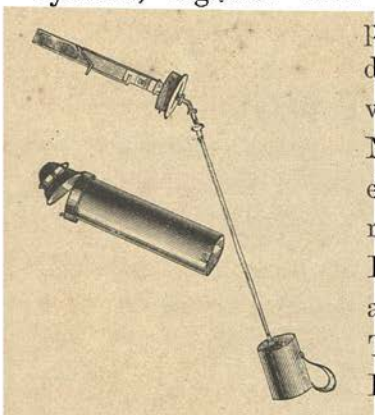
aperture in the carriage roof just as the train is about to start, dies hard. It will linger for years yet on branches and by-lines; but, whether filled with rape-oil or paraffin, it is gradually becoming superseded on main lines by compressed gas and electricity. The Metropolitan Railway Company, the London and South-Western, the Great Eastern, the Glasgow and South-Western, the Caledonian, and some of the English trunk lines have used compressed gas with advantage; but the electric light seems to have the greatest attraction for experts responsible for train-lighting.



A GAS LAMP OF 1845 (EXTERIOR).

On the London, Brighton and South Coast Railway the electric light has been in use for some years, and as far back as October, 1881, a Pullman car was fitted with accumulators and worked in the regular traffic on this line between Victoria and Brighton, causing some comment among the fashionable throng that go down to the sea for the winter season. The Brighton Company ten years afterwards had sixteen trains lighted by electricity; but the *Times* recently stated that the company, "after experimenting for some years with the electric light, had announced their intention of lighting their carriages with gas. Meanwhile the

passengers continue to travel in darkness." The Great Northern Company applied the electric light in July, 1886, to one of their suburban trains, and are at the present time making extensive use of it. The Cheshire Lines followed their example, the dynamo, together with the accumulator cells, being placed in the guard's van, and driven from the axle of the vehicle. The London and North-Western introduced the electric light into a train running between Manchester and Liverpool, in August, 1884, but accumulators were not used. The dynamo, coupled to a Brotherhood engine, drawing steam from the locomotive boiler, was placed in an iron closet fixed behind the tender, so as to be under the control of the engine-driver, two wires were carried from the dynamo through the train, and from them the lamps in each compartment were fed, the dynamo revolving and the lamps becoming luminous immediately the Brotherhood engine was put under steam. The light here depended entirely on the dynamo; but in the system adopted on the Brighton Railway, even if the dynamo got out of circuit the light could still be obtained from the batteries.



LIGHTER OF GAS LAMP OF 1845.

In 1888 the Midland Company gave instructions for the equipment of two trains with the electric

light to run between London, Manchester, and Liverpool. The first train, wired on the parallel system, was ready in May, 1889, and the second, equipped on the series system, was placed on the line soon afterwards. According to Mr. Langdon, in his interesting paper on "Railway Train Lighting," read in 1891 before the Institution of Civil Engineers:

"The main advantage of the parallel system is that any deficiency in the electrical energy of one vehicle is wholly, or to a great extent, met by the efficiency of those adjacent to it—the one can borrow from the other. The main disadvantage of the series system is that a break in any part of the train—a loose connection—cuts off the charging circuit, and throws the entire onus of the lighting upon the batteries. But it is somewhat less costly, in that smaller conducting cables may be used. Experience speedily displayed the advantages of the parallel over the series system, and the arrangement of the second train was modified accordingly. In each case the electricity was generated by a dynamo driven by belting from the wheels of the guard's van. These installations have continued in use since they were placed upon the line. The success thus attained encouraged the directors to proceed farther in this direction, and a number of main-line trains are now equipped with the electric light.

"These trains are broken up, or are capable of being broken up, on the journey. Each vehicle carries its own lighting power in the shape of accumulators, and the electricity for the whole is generated by a dynamo driven from the wheels of the guard's van. At present—in 1891—there are on the Brighton line sixteen trains running lighted by electricity, and six more being fitted, making a total of 223 coaches and 23 vans. On the Great Northern Metropolitan service there are six, and two being fitted, in all 72 coaches and 17 vans. On the Midland there are eight main-line and two local trains, either in operation or being fitted, comprising 70 coaches and 7 vans, making a grand total of 365 coaches and 57 vans electrically lighted. For a long time electric lighting was limited to trains which were not broken up, but the

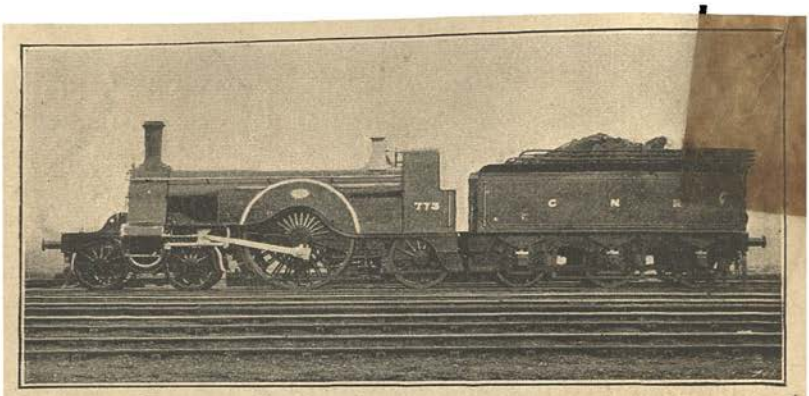
Midland experiments have carried the application to a point which would fairly seem to meet all the requirements of railway service."

What development the future has in store with regard to train-lighting it is impossible to prophesy, for it would be idle to attempt to gauge the possibilities of such a dynamo as the human mind, which has resources and energies practically inexhaustible. It has been demonstrated that electricity, though it occasionally indulges in curious whims, sometimes leaving the passenger in total darkness in tunnel, and now and then shining down upon him with excessive brilliance in broad daylight, vieing with the sunshine, is on the whole a steady, safe, and comparatively economical light, capable, with already available apparatus, and under proper supervision, of illuminating any train.

Some experts, however, are not altogether satisfied with it. Mr. A. M. Thompson, for instance, while admitting that a train running *en bloc* may be successfully lighted by electricity, and at a cost comparing favourably with that of oil or gas, scarcely thinks the light could be satisfactorily used on a train leaving London for the north and changing its character on the way, passenger carriages, horse boxes, milk trucks, and the stock of foreign companies being attached and detached. Sir George Findlay was open to conviction as to the absolute superiority of the electric light. It was, he admitted, more brilliant than gas for train lighting, and for local and suburban trains, filled with passengers returning from business to

their homes and desiring to read, this was an important consideration; but in his opinion it was extremely doubtful whether this advantage extended to long-journey trains starting at night. The brilliancy of the light, he thought, would become rather objectionable to passengers wishing to sleep, and even with the gas-lights now in use on the North-Western it had been found expedient to provide shades to obscure the light. Finding that compressed gas was a success in their carriages, the company introduced it into the Royal train; but the Queen preferred the oil-lamps, which were quickly restored. It must be added, however, that the impression prevails among many railway men that notwithstanding the extensive use of oil-lamps and compressed gas, the electric light will be generally adopted in England for train-lighting; but "whether the current will eventually be generated from the wheels of the carriage or direct from a separate engine is a question which rests equally with the engineer and with the electrician."

As this work goes to press the author learns that the Midland Company have withdrawn the electric lighting apparatus from all the trains in which it was in use, and are substituting compressed oil-gas. In view of such facts as these, it is wise not to prophesy too boldly.



GREAT NORTHERN ENGINE (8-FT. DRIVING WHEEL AND OUTSIDE CYLINDER).

(From a Photograph by J. R. Thompson, Doncaster.)

CHAPTER XXXIV.

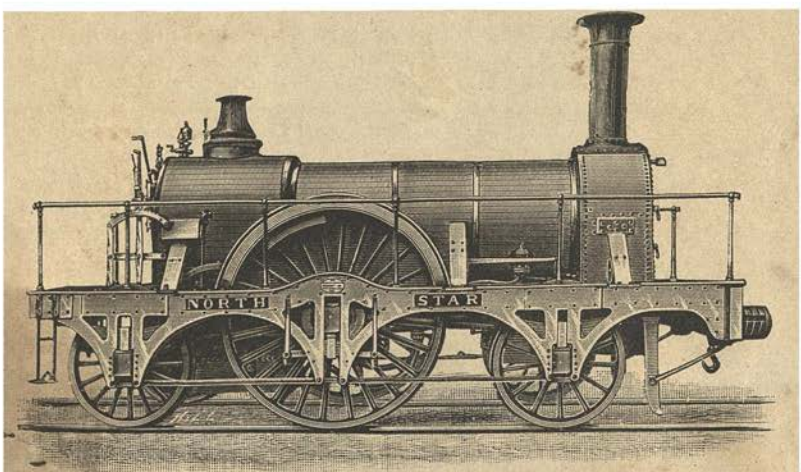
RAILWAY SPEED.

"Flying Coaches"—Locomotives, Old and New—Leisurely Trains—Railway Speed—What the Passenger Thinks—The Real Pace and its Limit—The Railway Race to the North—Sir Edward Watkin in the Eight-Hours Express—Fast Travelling in a Steady Train—The Old Fight for the Scotch Traffic—The Renewed Struggle—The First Month's Running—Great Northern Time—Quick Runs on Other Lines—The Coming Railway: An Ingenious Project—American Railway Hurry—Ten Miles in Six Minutes—Charles Dickens as a Railway Traveller—The "Greater Britain"—Fast Trains from Town—Railway Punctuality.

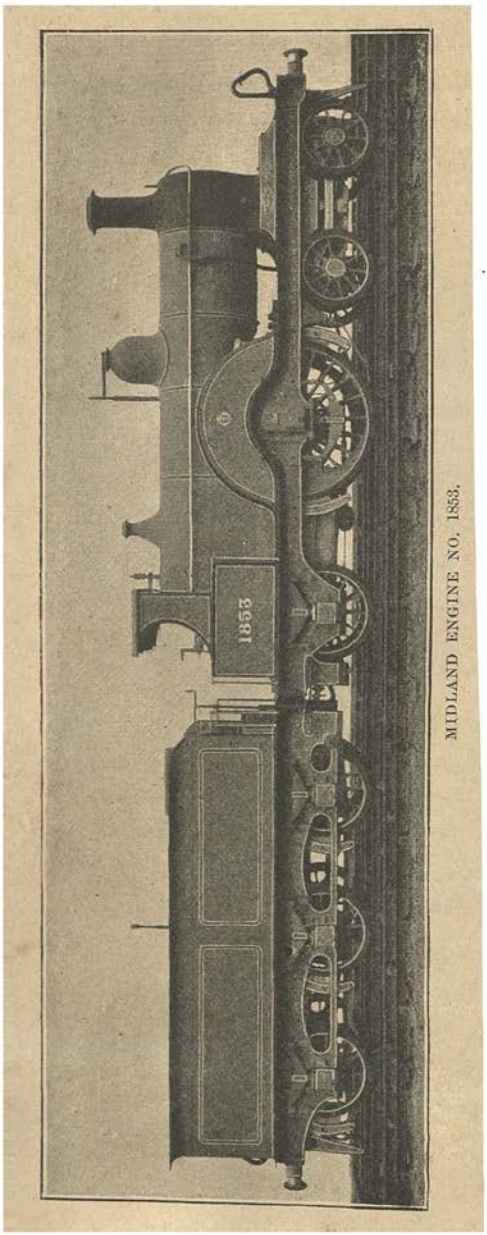
"THERE is," said a writer in 1692, "an admirable commodiousness both for men and women of the better rank to travel from London, the like of which has not been known in the world, and that is by stage-coaches, wherein one may be transformed to any place, sheltered from foul weather, and with a velocity and speed equal to the fastest posts in foreign countries; for the stage-coaches, called 'flying coaches' make forty or fifty miles a day." Not long ago, through the courtesy of Mr.

John Noble, the then general manager of the Midland Company, the author had an opportunity of seeing many flying coaches that travel as far in an hour as the old stage coaches did in a day. With a sort of roving permit through the company's works at Derby he obtained access along the high bridge that crosses the maze of lines behind the station to the locomotive department, and learned much about the locomotive that has superseded the coaching team, and takes us in what may be more truthfully styled "flying coaches" through the land at any hour, often in the teeth of storm.

The great machine shop, with its clang of labour, has seen in its busy life many types of locomotive, by no means the least notable being the Midland bogie express passenger-engine No. 1853, built from the

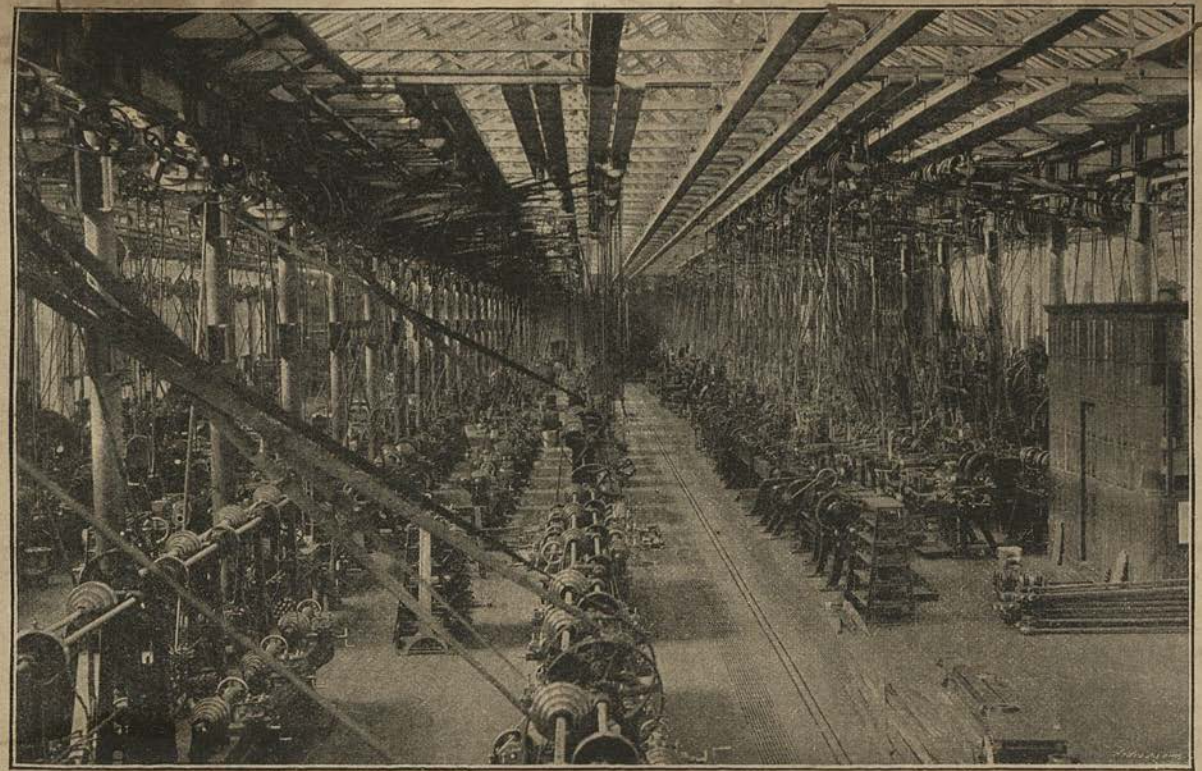


THE "NORTH STAR" (GREAT WESTERN).



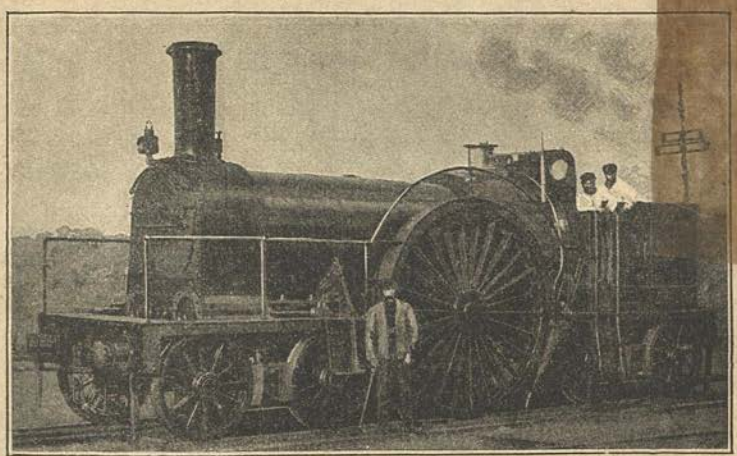
MIDLAND ENGINE NO. 1853.

designs of Mr. S. W. Johnson, the locomotive superintendent, and shown at the Paris Exhibition in 1889. It is a powerful, rakish-looking engine, weighing forty-three tons in working order, and capable of taking loads of from nine to sixteen coaches. It is fitted with 18½ in. cylinders, has one pair of 7ft. 6in. driving wheels with tyres of Vickers steel, and, working at a pressure of 160 lbs. per square inch, does its work between London, Nottingham, and Leeds at 53½ miles per hour, its longest run without a stop being 124 miles. A ship captain always feels the greatest security on his own deck, and an engine-driver has very little



THE MACHINE SHOP, LOCOMOTIVE DEPARTMENT, AT DERBY.

thought of peril on his own footplate. With such an engine, skilful in design and worthy in workmanship, the chance of mishap is very small; for, notwithstanding its high speed, it runs with great steadiness and



AN OLD BRISTOL AND EXETER DOUBLE-BOGIE TANK ENGINE (9 FT. WHEEL).
(From a Photograph by H. Davey, Exeter.)

works so smartly and with such ease that the driver's attention is seldom distracted from the signals.

The contrast between a locomotive of this type and some of the engines used in the early days of railway endeavour is not only interesting, it is almost ludicrous. Hedley's "Puffing Billy," constructed in 1813, and tried with success on the Wylam line, was somewhat whimsical in shape; still, it was a better-behaved engine than Brunton's, patented in the same year—a steam-horse, that moved on its hind legs with futile strength. The development of the locomotive since 1814,

when George Stephenson placed his engine "Blücher" on the Killingworth Railway, is an instructive study. "Locomotion," the "Experiment," the "Twin Sisters," the "Lancashire Witch," the "Rocket," the "Invicta," the "Northumbrian," the "Planet," "Mercury," "Samson," "George Stephenson," the "Comet," "Hercules," and "Atlas" followed each other on various lines. The "Planet" was a great improvement on Stephenson's earlier efforts at locomotive construction, and its cylinders were placed inside, under the smoke-box, and its driving wheels at the trailing end of the engine. On November 23rd, 1830, this locomotive "worked a special train to convey voters from Manchester to Liverpool for an election. The time of setting out was delayed, rendering it necessary to use extraordinary despatch, in order to convey the voters to Liverpool in time; and the journey was performed in sixty minutes, including a stop of two minutes on the road for water." *

The "Comet," which worked from West Bridge to Bagworth at the opening of the Leicester and Swannington Railway in 1832, had its cylinders low down, the piston-rod passing under the leading axle, and its reversing gear on the footplate was always moving backward and forward while the engine was in motion. Its chimney, which was thirteen feet in height from the rail level, was knocked down in the Glenfield Tunnel on the opening day, and had to be reduced in stature. The

* From the Journal of the Associated Society of Locomotive Engineers and Firemen.

"Hercules" was noted as a powerful goods engine, and the "Atlas," which had six coupled wheels and its reversing gear worked by treadles on the footplate, was considered an improvement upon it, and had a wider reputation. Perhaps of these earlier locomotives the "Lancashire Witch," a four-wheeled coupled engine, constructed in 1828 for use on the Bolton and Leigh Railway, had the most distinctive name, and met with the worst fate. After doing its work well for several years, it was consigned to the scrap heap.

Among more modern engines was Brunel's "Hurricane," constructed in 1838 for the broad gauge, with a pair of ten-feet driving wheels; Trevithick's "Cornwall," with a driving wheel of eight feet six inches, built at Crewe in 1847 for the London and North-Western Railway; and Crampton's "Liverpool," erected, with eight-feet wheels, for the same company. Remarkable progress has been made in the design and build of express, mineral, and goods engines during the past few years. Nearly every line has its own particular class of engine, adapted to its special traffic; and locomotive superintendents are continually suggesting or devising some improvement likely to steady the running or increase the power and speed.

There are whimsical stories told of railway travelling in remote parts of America, and on the free-and-easy lines over which the trains saunter in some parts of Ireland and the Isle of Man; how the driver pulls up opposite some homestead to chat with a relative, or gets off the footplate at a level-crossing to help the

farm lad to push his milk-cart across the track, or drives his train so slowly "that passengers get out when tired of sitting still, and after walking a few miles, rest until the train overtakes them." An extraordinary incident comes from New Zealand. It is recorded that an engine-driver in that colony "noticed a lady waving her hand at a siding where he was not timed to stop. On pulling up his train, he asked her if she wished to get on board; but she said she was not travelling. She would be real grateful if the driver would ask the passengers if anyone could oblige her with change for a £1

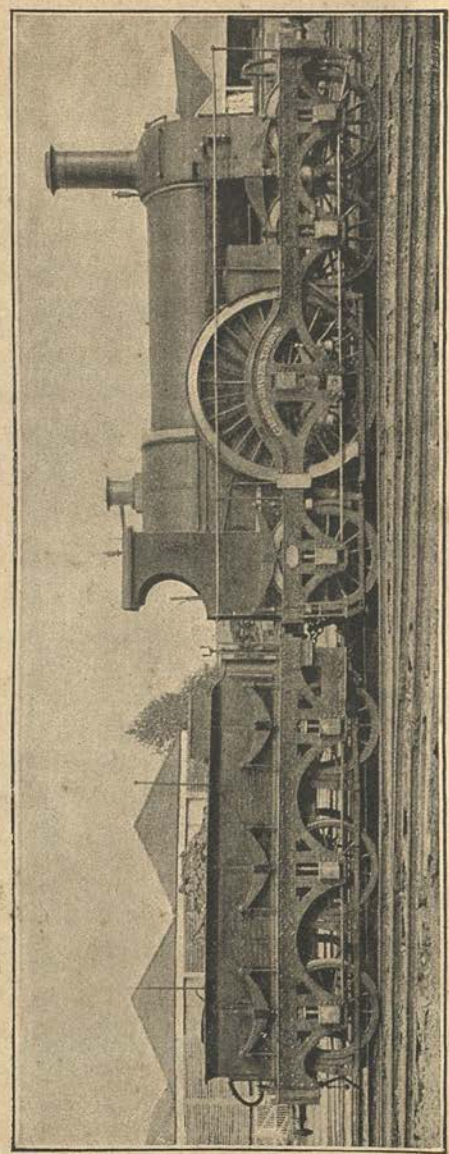


Photo: J. S. Protheroe, Swindon. A GREAT WESTERN BROAD-GAUGE EXPRESS ENGINE (8 FT. DRIVING WHEEL).

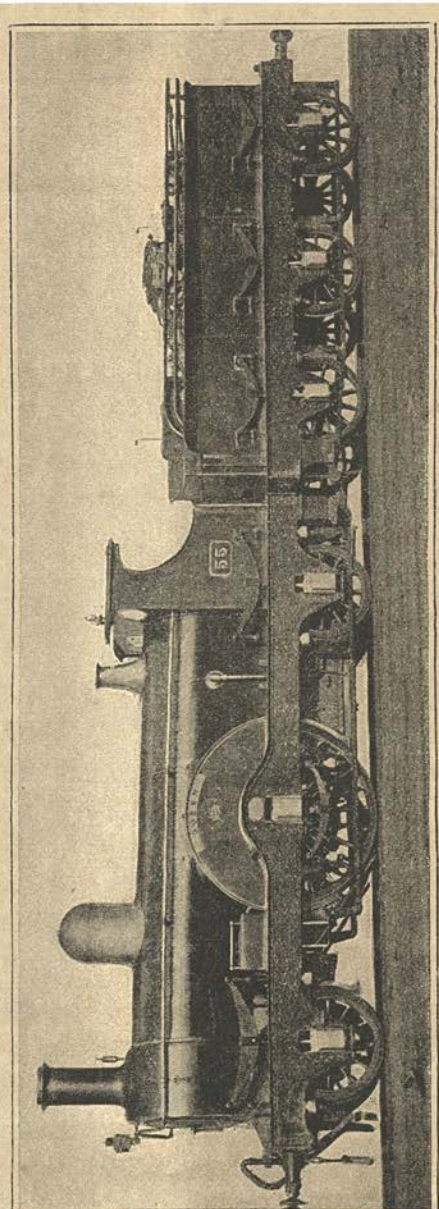
note!" Even more remarkable is the sporting tale given in the *Port Elizabeth Telegraph* with regard to Mr. William Mackenzie, a noted shot:

"While travelling by goods train between Cookhouse and Cradock he happened to have his gun with him in the guard's van. On ascending a curve with an incline, for a distance of over a mile, of 1 in 40, he espied a stembok quietly grazing on the veldt at a distance of 100 yards from the railway line. Unable to resist the temptation of a good shot, he seized his gun, sprang from the van, ran a few yards across the veldt, fired, and shot the buck, picked him up, ran and overtook the train, put the buck in the van, got in himself, dressed the buck, and had it hung up in the van before the summit of the hill was reached. The curious part of the story is that the driver of the train knew nothing of the occurrence until the next station was reached, and, when apprised of the fact, would not believe it until he saw the carcass of the buck still reeking in the van."

The speed of the locomotive is generally an interesting topic with the traveller, especially if the express is plunging along a falling gradient, and sways and staggers for the fraction of a second as it dashes over the points. "That was a close shave," he says, after lurching nearly off his seat, and bending until his face is florid in search of his bag that has leapt from the hat rack to the carriage floor. He is quite certain that the engine has been running down the sloping track at the rate of 100 miles an hour, and feels a sense of relief now she is panting up a steep gradient, and getting some collar work. But the probability is that the locomotive has been going at little more than half the speed the passenger imagines. When an engine is travelling at from 50 to 60 miles an hour, she is

running at no snail's pace, and the express bogie passenger engine that glides along the line at a booked speed of 100 miles an hour has not yet come into common use.

Mr. Clement Stretton, who is an authority on the locomotive and its speed, says: "In 1853 one of the Bristol and Exeter nine-feet engines was officially timed at a speed of just over 80 miles an hour for a short distance upon a falling gradient with a light load. Upon several occasions between 1847 and 1854 Brunel and Gooch tried their eight-feet Great Western engines, and they reached speeds just over 78 miles an hour, but the engines could



LATEST TYPE OF GREAT WESTERN EXPRESS ENGINE (7 FT. DRIVING WHEEL).

not reach the speed of 80. The Great Northern eight-feet-one-inch engines have attained speeds of 79½ miles an hour. During the railway race of 1888 several trains on various lines ran on falling gradients at 76 miles an hour; and in ordinary traffic, speeds on certain portions of railways are daily run of 70, 73, and occcasionally 75 miles an hour. It may be said that 80 miles an hour is the limit of a locomotive's pace, and the cause of this is that at a speed of 80 miles an hour, the resistance of the air, the back pressure and the friction together, have become so great that they absorb the whole power of the engine."

In the preface to his instructive book on "The Locomotive and its Development," the same writer says:

"During the past twenty-five years the author has ridden upon many engines, and has travelled in all the fastest trains upon all the railways in this country, for the special purpose of ascertaining their rate of speed. Upon a few occasions, and under favourable circumstances, he has recorded the very high speed of 79·9 miles an hour, but he has never been able to time a train or engine at actually 80 miles an hour. As long ago as 1853, 81 miles an hour was run by engines upon the Bristol and Exeter Railway, but these have now been altered and their speed reduced. It is not wise to predict what may be done in the future, but at present 80 miles an hour is the maximum pace. The average speed of the fastest express train, over a long run, without a stop—say 70 or 100 miles—is 54 or 55 miles an hour, and to maintain this it is not necessary to run at more than 70 or 75 miles an hour upon any part of the journey."

The railway race to the north in 1888 aroused a good deal of comment. The London and North-Western, determined not to be beaten by the Great

THE ERECTING SHOP AT CREWE IN 1849.

Northern, put on a new series of special expresses in August. The first train, which left Euston at ten o'clock in the morning, consisted of four vehicles, and was worked in turn by three engines. The first

CREWE STATION *EN FETE* IN 1843.

locomotive ran to Crewe; the second took the train to Carlisle; and the Caledonian Company continued the running with one of their own engines to Edinburgh, which was reached at 5.52 p.m., or eight minutes to spare. A speed of 75 miles an hour was attained on one stretch, and the longest run without stopping was from London to Crewe, 158 miles. The entire distance covered was 400 miles, and the actual time, excluding stops, seven hours twenty-five minutes.

Sir Edward Watkin was a passenger in the "Eight

Hours Express," as it was called, on the third day of the new service, and gave the following account of his experience:

"I have travelled all over the world, and I have

PRESTON STATION.

never had a pleasanter journey. There was steadiness, noiselessness, continuity of speed; no rushing up and down; no block, except just once at Atherstone; always before time. It was capital in every way. And then the refreshment part—the lunch at Preston—soup, choice of meat, sweets, cheese, and a cup of coffee, and all for three shillings. It is a *train de luxe*, in fact. The highest speed travelled was not more than 65 miles an hour. The great secret in getting a steady

train is to have the vehicles the same length, the same weight, and all coupled well together. That was the case to-day, and I never experienced easier running. I remember when I was a boy of eleven, and Huskisson had been injured at the opening of the Liverpool and Manchester Railway, that George Stephenson ran down on one of his engines to Manchester to get doctors; and the newspapers said: 'Marvellous to relate, the engine bearing George Stephenson to Manchester attained the extraordinary speed of 34 miles an hour.' There is really no danger in 70 miles an hour, except in crossings and sidings, and not there if the points are kept properly cleaned and oiled. I should say on the whole that the West Coast is physically better fitted for running than the East Coast. The advantages of the West Coast are that they have on the whole a large amount of level ground. They have one in 33 almost all the way to Preston, except at Madeley incline, which is a still gradient—one in 80. Then on the old Lancaster and Carlisle there is about one in 70—up Shap Fell—and there is Beattock. On the East Coast the disadvantage is that they have not quite so level a line on the balance, and they have a very much larger number of points and crossings to pass through—all the colliery districts of the north-east. You dare not go banging through all these points and crossings at the same speed as on an unobstructed line.

"The Forth Bridge is an important thing in this new railway struggle. But the fact is, you always find Scotchmen will fight. I believe the real

RUNNING OF THE EDINBURGH EXPRESS FROM LONDON, AUGUST, 1888.

	Euston.		Rugby.					Crewe.					Preston.					Carlisle.					Edinburgh.			
Time-Table Time.	Dep. 10.0 a.m.		Arr. 11.42. Dep. 11.47.					Arr. 1.15. Dep. 1.20.					Arr. 2.22. Dep. 2.42.					Arr. 4.27. Dep. 4.32.					Arrive 6.30.			
Date.	Actual time.	Load.	Actual time. Arr.	Actual time. Dep.	Min. early	Min. late	Load.	Actual time. Arr.	Actual time. Dep.	Min. early	Min. late	Load.	Actual time. Arr.	Actual time. Dep.	Min. early	Min. late	Load.	Actual time. Arr.	Actual time. Dep.	Min. early	Min. late	Load.	Actual time. Arr.	Min. early	Min. late	Remarks.
August 1	10.0	5	11.41	11.47	...	...	5	1.14	1.20	6	...	5	2.20	2.44	2	...	6 42ft.	4.33	4.42	...	6	...	6.34	...	4	
" 2	10.0	4 42ft.	11.41	11.47	...	...	4	1.14	1.20	6	...	4	2.17	2.42	5	...	5	4.26	4.32	1	...	...	6.24	6	...	
" 3	10.0	4	11.41	11.47	...	...	4	1.15	1.20	5	...	4	2.17	2.42	5	...	8	4.27	4.33	...	...	...	6.27	3	...	
" 4	10.0	3 42ft.	11.41	11.47	...	...	3 42ft.	1.15	1.20	5	...	3 42ft.	2.22	2.46	...	...	3 42ft.	4.30	4.37	...	3	...	6.29	1	...	
Accelerated.	10.0 a.m.		Rugby stop taken off.					Arr. 1. Dep. 1.5.					Arr. 2.3. Dep. 2.23.					Arr. 4.3. Dep. 4.8.					Arrive 6 p.m.			
* August 6	10.0	4 42ft.	...	...	...	...	...	12.57	1.3	3	...	4 42ft.	1.54	2.18	9	...	4 42ft.	3.55	4.8	8	...	4 42ft.	5.52	8	...	
" 7	10.0	4 "	...	...	...	...	...	12.59	1.4	1	...	4 "	1.54	2.20	9	...	4 "	3.50	4.8	13	...	4 "	5.52	8	...	
" 8	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.58	2.22	5	...	4 "	3.58	4.8	5	...	4 "	5.53	7	...	
" 9	10.0	4 "	...	...	...	...	...	12.58	1.5	2	...	4 "	1.57	2.22	6	...	4 "	4.48	4.53		45	4 "	6.37	...	37*	
" 10	10.0	4 "	...	...	...	...	...	12.56	1.2	4	...	4 "	1.55	2.22	8	...	4 "	3.57	4.8	6	...	4 "	5.58	2	...	
" 11	10.0	4 "	...	...	...	...	...	12.58	1.3	2	...	4 "	1.56	2.22	7	...	4 "	4.0	4.8	3	...	4 "	5.56	4	...	
" 13	10.0	4 "	...	...	...	...	...	12.46	12.51	14	...	4 "	1.47	2.8	16	...	4 "	3.47	3.53	16	...	4 "	5.38	22†	...	
" 14	10.0	4 "	...	...	...	...	...	12.56	1.2	4	...	4 "	1.55	2.21	8	...	4 "	3.58	4.8	5	...	4 "	5.58	2	...	
" 15	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.55	2.20	8	...	4 "	3.57	4.8	6	...	4 "	5.58	2	...	
" 16	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.57	2.22	6	...	4 "	4.0	4.8	3	...	4 "	5.56	4	...	
" 17	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.58	2.22	5	...	4 "	4.0	4.8	3	...	4 "	5.58	2	...	
" 18	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.59	2.23	4	...	4 "	4.0	4.8	3	...	4 "	5.55	5	...	
" 20	10.0	4 "	...	...	...	...	...	12.55	1.1	5	...	5 "	1.56	2.22	7	...	5 "	3.59	4.8	4	...	5 "	5.57	3	...	
" 21	10.0	4 "	...	...	...	...	...	12.58	1.4	2	...	4 "	2.0	2.23	3	...	4 "	4.0	4.8	3	...	4 "	5.57	3	...	
" 22	10.0	4 "	...	...	...	...	...	12.56	1.2	4	...	4 "	1.58	2.23	5	...	4 "	4.0	4.8	3	...	4 "	5.56	4	...	
" 23	10.0	4 "	...	...	...	...	...	12.56	1.3	4	...	4 "	1.55	2.23	8	...	4 "	3.57	4.8	6	...	4 "	5.56	4	...	
" 24	10.0	4 "	...	...	...	...	...	12.55	1.1	5	...	4 "	1.57	2.24	6	...	4 "	3.57	4.8	6	...	4 "	5.57	3	...	
" 25	10.0	4 "	...	...	...	...	...	12.57	1.2	3	...	4 "	1.58	2.23	5	...	4 "	4.0	4.8	3	...	4 "	5.56	4	...	
" 27	10.0	4 "	...	...	...	...	...	12.57	1.3	3	...	4 "	1.59	2.23	4	...	4 "	4.0	4.8	3	...	4 "	5.57	3	...	
" 28	10.0	4 "	...	...	...	...	...	12.56	1.1	4	...	4 "	1.56	2.23	7	...	4 "	4.0	4.8	3	...	4 "	5.57	3	...	
" 29	10.0	4 "	...	...	...	...	...	12.56	1.3	4	...	4 "	2.0	2.23	3	...	4 "	4.2	4.8	1	...	4 "	5.56	4	...	
" 30	10.0	4 "	...	...	...	...	...	12.54	1.1	6	...	4 "	1.58	2.23	5	...	4 "	3.58	4.8	5	...	4 "	5.56	4	...	
" 31	10.0	4 "	...	...	...	...	...	12.57	1.3	3	...	4 "	1.58	2.24	5	...	4 "	3.58	4.8	5	..	4 "	5.57	3	...	

* Engine failed at Shap, burst tube.

† On this day the G.N., having taken 15 minutes off their time, the train was ordered to arrive correspondingly earlier.

From August 6th to August 31st.

Weight of Train.

London to Crewe.	Tons.	Cwt.
Engine (7'-6" single wheel) ..	27	1
Tender	25	0
	52	1
4 42-ft. Couches	76	0
Total ..	128	1

Crewe to Carlisle.	Tons.	Cwt.
Engine 6'-6" (4-wheeled coupled) ..	34	0
Tender	25	0
	59	0
4 Couches	76	0
Total ..	135	0

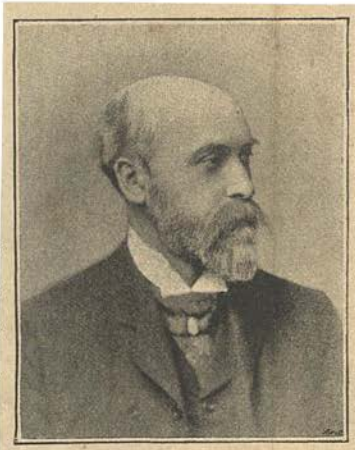
Distances.	Miles.
Euston to Rugby	82¾
Rugby to Crewe	75
Crewe to Preston	51
Preston to Carlisle	90¼
Carlisle to Edinburgh	101
	400¼

To face p. 236, Vol. II.

RUNNING OF DOWN SPECIAL EXPRESS, 10 A.M. FROM KING'S CROSS, DURING AUGUST, 1888.

	London to Grantham, 105 miles 26 chains.							Grantham to York, 82 miles 55 chains.							Total miles, London to York, 188 miles 1 chain.		
Date.	No. of Engine.	Load including Breaks. No. of Vehicles.	Left King's Cross. Due 1st to 31st inclusive 10 a.m.	Arr. at Grantham Due 1st to 4th inclusive 11.59; 6th to 18th 11.57; 20th to 31st 11.55.	Delays, etc. Min.	Miles per Hour (Actual).		No. of Engine.	Load including Breaks. No. of Vehicles.	Left Grantham Due 1st to 4th inclusive 12.4; 6th to 18th 12.2; 20th to 31st 12.0.	Arr. at York. Due 1st to 4th inclusive 1.35; 6th to 11th 1.32; 13th to 31st 1.30.	Delays, etc. Min.	Miles per Hour (Actual).		Delays, Stops, etc. Min.	Miles per Hour (Actual).	
						Running, excluding Delays.	Including stops, etc.						Running, excluding Delays.	Including stops, etc.		Running, excluding Delays, Stops, etc.	Including Stops, etc.
Aug.	Lon.		a.m.					Grantham									
1	671	8	10.0	11.59	...	53·1	...	3	8	12.2	1.33	..	54·5	...	3	53·7	53·0
2	Pet. 233	9	10.0	11.58	...	53·6	...	3	9	12.2	1.33	...	54·5	...	4	54·0	53·0
3	776	9	10.0	11.56	...	54·5	...	3	9	12.0	1.31	...	54·5	...	4	54·5	53·5
4	233	9	10.0	11.58	...	53·6	...	3	9	12.3	1.36	3	55·1	53·3	8	54·2	52·2
6	98	8	10.0	12.0	7	55·9	52·7	777	8	12.4	1.36	2	55·1	53·9	13	55·6	52·2
7	69	9	9.58	11.54	...	54·5	..	777	9	11.59	1.31	2	55·1	53·9	7	54·8	53·0
8	48	8	9.59	11.56	...	54·0	...	777	8	11.59	1.29	...	55·1	...	3	54·5	53·7
9	776	9	9.58	11.55	...	54·0	...	777	9	12.0	1.30	...	55·1	...	5	54·5	53·2
10	234	10	10.0	11.57	...	54·0	...	777	9	12.2	1.32	...	55·1	...	5	54·5	53·2
11	776	8	10.0	11.55	...	55·0	...	777	8	11.59	1.30	...	54·5	...	4	54·8	53·7
13	237	8	10.0	11.55	...	55·0	...	775	8	12.0	1.30	6	59·1	55·1	11	56·7	53·7
14	7	8	10.0	11.55	...	55·0	...	775	8	12.0	1.30	2	56·4	55·1	7	55·6	53·7
15	98	8	10.0	11.55	2	55·9	55·0	775	8	11.59	1.28	...	55·7	...	6	55·8	54·2
16	22	9	10.0	11.51	...	56·9	...	775	8	11.57	1.27	...	55·1	...	6	56·1	54·5
17	22	8	10.0	11.55	2	55·9	55·0	775	8	12.0	1.29	...	55·7	...	7	55·8	54·0
18	7	8	10.0	11.56	...	54·5	...	775	8	12.0	1.30	...	55·1	...	4	54·8	53·7
20	233	7	10.0	11.50	...	57·5	...	775	7	11.54	1.24	...	55·1	...	4	56·4	55·3
21	237	7	10.0	11.49	...	58·0	...	775	7	11.53	1.22	...	55·7	...	4	57·0	55·8
22	98	7	10.0	11.53	...	55·9	...	775	7	11.56	1.26	...	55·1	...	3	55·6	54·8
23	233	7	10.0	11.48	...	58·5	...	775	7	11.53	1.22	...	55·7	...	5	57·3	55·8
24	98	7	10.0	11.53	...	55·9	...	775	7	11.58	1.26	...	56·4	...	5	56·1	54·8
25	233	7	10.0	11.45	...	60·2	...	775	7	11.51	1.30	9	55·1	50·1	15	57·9	53·7
27	22	7	10.0	11.51	...	56·9	...	95	7	11.56	1.28	3	55·7	53·9	8	56·4	54·2
28	98	7	10.0	11.52	...	56·4	...	95	7	11.58	1.29	2	55·7	54·5	8	56·1	54·0
29	22	7	10.0	11.49	...	58·0	...	95	7	12.0	1.30	4	57·7	55·1	15	57·9	53·7
30	69	8	10.0	11.54	...	55·4	...	95	8	11.58	1.27	...	55·7	...	4	55·6	54·5
31	98	7	10.0	11.50	...	57·5	...	95	7	11.54	1.23	...	55·7	...	4	56·7	55·6
				Average	...	55·7	55·5						55·5	54·8		55·6	53·9

combatants in this battle are the Caledonian and the North British. The East Coast last year managed by a little dodging to filch away some traffic from the West Coast. My impression is that the combative Caledonian people have said to the North-Western, 'Come, you must help us—we won't stand this any longer.'"

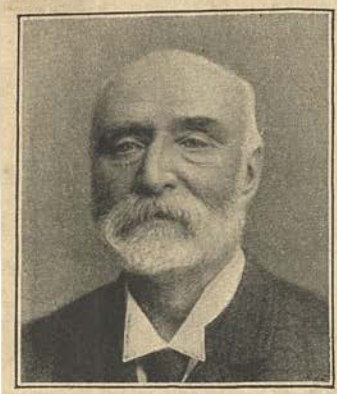


MR. F. W. WEBB.

(From a Photograph by Van der Weyde, Regent Street, W.)

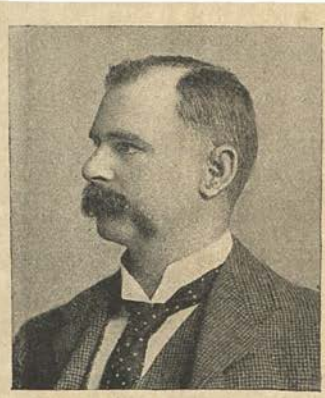
Sending me an extremely interesting table (*see* front of fly-sheet) showing the first month's running in the railway race, Mr. F. W. Webb, the locomotive superintendent of the London and North-Western Railway, says: "Appended is a copy of the time occupied by the fast trains in the so-called race from Euston to Edinburgh. The speeds then run, however, were very little, if anything, in excess of those often obtained on the line. The particularly fast trains run at the time were very light, and we constantly used our small types of engines. For our heavier trains we principally used the six-feet compounds and the seven-feet compounds."

I am indebted to Mr. Patrick Stirling, the locomotive engineer, for valuable information with regard to fast running on the Great Northern Railway. Writing on September 10th, 1892, he says: "As regards the speeds



MR. PATRICK STIRLING.
(From a Photograph by F. Whaley, Doncaster.)

of trains, I cannot do better than send the records of the running of our Scotch train from King's Cross to York during the so-called race. I also enclose an account of a special run with the Lord Mayor of London in July, 1880, as well as particulars of the running of one of our Manchester expresses, taken by Mr. Martin, the locomotive engineer of the New Zealand Railway." No more remarkable story has ever been told by figures; and if George Stephenson —notwithstanding his curious prophecy that the company's trains would never be able to reach York on this track in foggy weather—were alive now, and could study them, he would be more surprised even than he was, in the early part of his career, when he was presented with a silver cup and one thousand guineas for his discovery of the rude wire-cased safety lamp. The records of the race to Edinburgh will be found at the back of the fly-sheet; the other tables are as follow :—



MR. WILSON WORSDELL.
(From a Photograph by R. E. Ruddock, Newcastle-on-Tyne.)

SPEED OF A SPECIAL TRAIN RUN FROM LONDON TO YORK ON 31ST JULY, 1880, WITH THE LORD MAYOR OF LONDON.

King's Cross, London, to York, 188 miles, in 3 hours 37½ minutes.

	Miles per Hour
King's Cross to Grantham	52½
Grantham to York	57
King's Cross to York, including 10½ minutes' stoppage	52
King's Cross to Peterboro' (76¼ miles in 84¾ minutes)	54
Peterboro' to Stoke Box, rise of 320 feet (23¾ miles in 28½ minutes)	50
Hatfield to Peterboro' (58⅝ miles in 60¾ minutes)	57 9/10
Claypole to Selby (59 miles in 60½ minutes) ...	59
Barkstone to Tuxford (22¼ miles in 20¾ minutes)	64⅓
Grantham to York	57
„ „ Selby	57·9
„ „ Doncaster	58¼
„ „ Retford	58⅔
„ „ Newark	59

SPEED RECORDED BY MR. C. R. MARTIN, LOCOMOTIVE ENGINEER NEW ZEALAND RAILWAY, WHILST TRAVELLING IN THE 2 P.M. SPECIAL EXPRESS FROM MANCHESTER TO LONDON BY THE GREAT NORTHERN RAILWAY.

	H.	M.	Secs.		Miles.	Speed. Miles per Hour.
Passed Stoke Box	4	27	21	p.m.	...	...
„ Corby	4	30	20	„	...	...
„ Little Bytham	4	34	15	„	4 74/80	75·45
„ Essendine	4	37	10	„	3 63/80	77·10
„ Tallington	4	40	1	„	3 52/80	79·40
				Distance	12 29/80	Average Mileage per Hour 77·15

Mr. Worsdell, the locomotive superintendent of the North-Eastern Railway, sends me the following statement, showing the speeds of the express trains on that line:—

Train.		Between		Distance in Miles.	Time allowed.		Average speed per hour in Miles.		Actual maximum speed per hour, after deducting three seconds for first mile and one-second for last half mile in each case of starting and stopping.		Remarks.
		Station.	Station.		Hr.	Mts.					
p.m.											
2.0	York to Edinbro'	York ...	Newcastle ...	80½	1	34	51·38	51·15	52·66	52·54	Two starts and two stops.
2.0	,, ,, ,,	Newcastle ...	Berwick ...	67	1	19	50·88		52·40		
2.5	,, ,, ,,	York ...	Newcastle ...	80½	1	37	49·79	49·71	50·96	51·00	Two starts and two stops.
2.5	,, ,, ,,	Newcastle ...	Berwick ...	67	1	21	49·63		51·03		
a.m.											
10.0	Edinbro' to York	Berwick ...	Newcastle ...	67	1	20	50·25	50	51·71	52	Three starts and three stops.
10.0	,, ,, ,,	Newcastle ...	Darlington	36½	0	46	47·60		50· 0		
10.0	,, ,, ,,	Darlington	York ...	44	0	51	51·76		54·25		
7.40	Newcastle to York	Newcastle ...	Durham ...	14½	0	19	45·79	46·89	52· 0	52·77	Five starts and five stops.
7.40	,, ,, ,,	Durham ...	Darlington	22	0	27	48·88		53·47		
7.40	,, ,, ,,	Darlington	Northallerton	14¼	0	20	42·75		47·81		
7.40	,, ,, ,,	Northallerton	Thirsk ...	7¾	0	10	46·50		62·50		
7.40	,, ,, ,,	Thirsk ...	York ...	22	0	27	48·88		53·47		
10.0	Newcastle to Leeds	Stockton ...	Northallerton	17¾	0	24	44·37	48·48	48·75	54·42	Two starts and two stops.
10.0	,, ,, ,,	Northallerton	Ripon ...	17	0	19	53·68		62· 0		

Mr. Johnson, the locomotive superintendent of the Midland, writes: "So far as my knowledge goes, 72 to 75 miles per hour is frequently made by Midland express trains." The "Flying Dutchman," the "Wild Irishman," and the "Flying Scotsman" go fast enough to satisfy most passengers with finely-strung nerves. There is some prospect, too, of the construction of a railway that will provide travel sufficiently rapid to gratify the earnest haste of the Bishop of Ripon. A German engineer, confident that the locomotive has now done its best, and that its speed can never attain a much greater rate than sixty miles an hour, has devised a method of travelling calculated to make even a bishop breathless. His idea is to supersede the old-fashioned railway, with its ballast, and sleepers, and light rails. His line, with the up and down track ten yards apart, must be made of much heavier rails set in solid masonry; and along this substantial road electrical express cars are to run at a speed varying from 120 to 150 miles an hour. Each car will be practically a train to itself, giving accommodation to forty passengers, dashing away unattached, projected from town to town by electricity supplied from the rails.

MR. S. W. JOHNSON.

(From a Photograph by W. D. Brigham, Scarborough.)

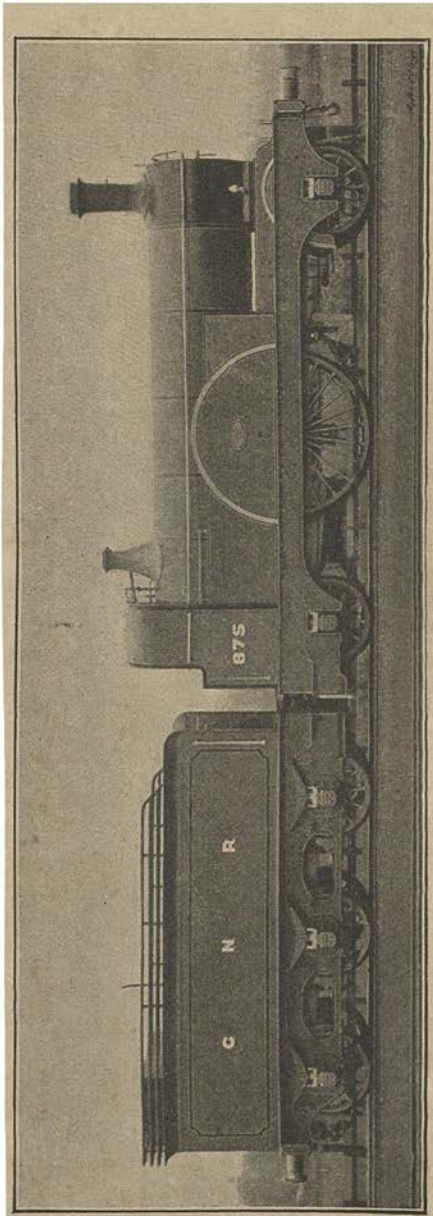
It is explained that the two sets of rails will have to be fixed far apart, lest the passing cars, raising a hurricane in their flight, should blow each other off the track; and that a special system of signalling will have to be introduced, inasmuch as ordinary signals would be useless with such flying cars. The signalman seems to be entrusted with a good deal of responsibility on this marvellous railway, for he is expected to stop the car by shutting off the electric current from his stretch of line. One shudders to think what would become of the forty passengers if the signalman happened to fall asleep, or fell dead among his levers; but a distinct advantage is promised on the new line—there will be no time-table: no wild hunt, no frantic turning-out of drawers in search of it, at breakfast-time; for the cars will start every ten minutes.

A human being can adapt himself to anything, and would probably soon become accustomed to this new style of locomotion, though its tendency might be to flatten him out like the aërial voyager's dog that became a satellite in "The Journey to the Moon;" still, considering the enormous amount of capital expended on the present system of railways, and the objection shown by so many passengers to such unnecessary haste, it is doubtful whether this latest form of railway enterprise will be widely adopted in the present generation.

Meanwhile there is a desire to get the highest speed possible out of the existing railway system,

and the speed trials, particularly on the American lines, have produced some astonishing results, as will be seen from the following extract from *The Engineer*:

"Three notable runs have been made recently on American railroads. The first of these took place in connection with a special effort to accelerate the transport of mails from Yokohama to Queenstown. The steamer *Empress of Japan* left Yokohama on August 19th, 1891, at 8.45 a.m., and arrived at Vancouver at noon on August 29th. A special train on the Canadian Pacific Railway, consisting of one mail and baggage car, and one sleeping car, started at 1 p.m. with thirty-three bags of mails, and ran to Brockville, a distance of 2,792 miles, in 76 hours 31 minutes actual time, the average speed being thus 36·23 miles an hour. At Brockville the train crossed the ferry to



From a Photo by] LATEST TYPE OF GREAT NORTHERN EXPRESS ENGINE (7 ft. 6 in. driving wheel). *[J. R. Thompson, Doncaster.*

Morristown, where it entered the Rome, Watertown, and Ogdensburg line, and ran to Utica. There it got on the New York Central and Hudson River systems, and reached New York on September 2nd. From Morristown to New York the distance is 361 miles, which was traversed in 6·58 hours, the rate being 51.81 miles an hour. The second run took place on August 27th. It was made by a special train on the Philadelphia and Reading Railroad. This train was run for the purpose of ascertaining how fast it was possible to go, and the quick running was made on the section between Jenkintown and Langhorne, a distance of 12 miles. The total weight of the engine and a train of three cars was 150 English tons, and the average speed over the 12 miles is given as 82·7 miles an hour, while one mile is said to have been traversed in 39 4-5 seconds, or very nearly 90·5 miles an hour. The third run was by far the most noteworthy of the three. It took place on September 14th on the New York Central and Hudson River Railroad, from New York to East Buffalo, a distance of 436⅛ miles. The train consisted of an engine and three cars, the total weight being 230 American tons. The distance was traversed in 439⅛ minutes. The engines were changed three times, and there was a short delay caused by the heating of an axle-box. The actual running time was 425 minutes 12 seconds, and excluding stops, the average speed was 61·56 miles an hour. This performance has never been equalled. The speed was very uniform, the quickest mile being done at the rate of 76·5 miles an hour. Taking the American run as a whole, it constitutes a distinct departure in railway work."

These records were, according to an American correspondent, broken in February, 1892, by a runaway locomotive. The chronicler of this marvellous run, possessing both a vivid imagination and a facile pen, writes:

"'Locomotive running wild—clear the main track,' was a message sent along the Pennsylvania and Poughkeepsie Railway the other day. The truant locomotive had been standing on the main line at Blairstown, when a goods train coming up behind ran into it. The throttler was thrown wide open by the shock, and before anyone

could leap on board the engine it was tearing down the track at the rate of a mile a minute. The small knots of people at the various stations heard a rushing roar, and saw a flash of burnished brass as the engine flew by. A passenger train for New York, on the Susquehanna and Western road, was almost due at Portland, and everyone expected a collision on the tracks, which are used jointly by the two roads; but the runaway reached the Poughkeepsie Road crossing, and was switched on to that road two minutes before the Susquehanna train came along. The switch was turned half a minute before the engine reached it, otherwise nothing would have saved the passenger train. The truant engine dashed along the long bridge at Portland at the rate of seventy-five miles an hour. Steam began failing on the heavy gradient of the bridge, the engine slackened its speed, and a man leaped on board from another engine, climbed over the coals to the throttle, and stopped the runaway. The run from Blairstown to Portland, ten miles, had been made in six minutes."

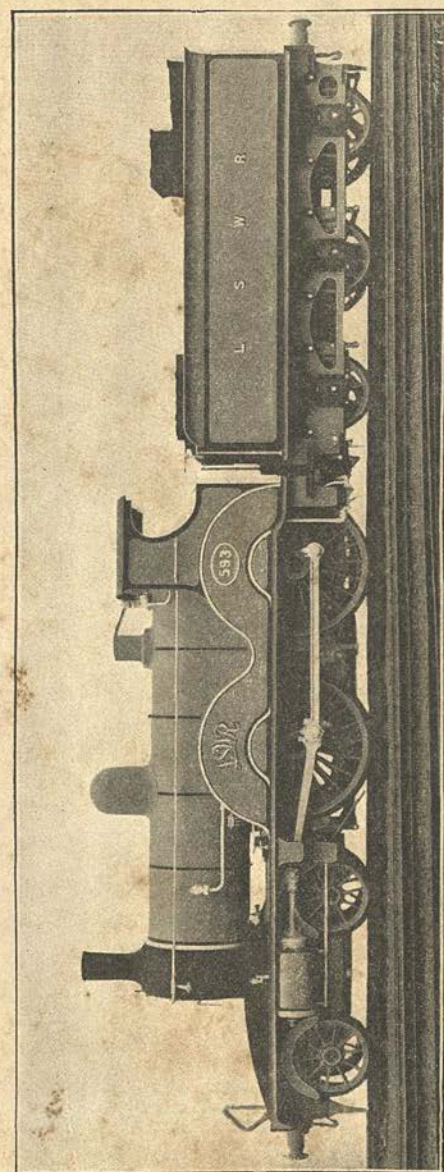
America always has gone through life in a hurry. It would be strange if Brother Jonathan, who is always telling the world that he can lick creation, did not reach a higher railway speed than any other people. But with all the luxury of his cars, the romantic look of his locomotives, that pant across the prairie and toss buffaloes and red Indians out of their path with fan-like cow-catchers, and the tearing speed of his trains, it is doubtful whether he gives such comfort in travelling as is to be found on any of the best managed English railways. His pace is faster, his permanent way less trustworthy, and his railway disasters more numerous and altogether more sensational and thrilling than the most serious railway accidents that occur in this country. His tracks and rolling stock have, it is true, been greatly improved since Charles Dickens

visited America, but on some routes even yet the "fix" of the rails does not tend to a feeling of security.

"I have often asked Americans in London," wrote the novelist, "which were the better railroads—ours or theirs. They have taken time for reflection, and generally replied on mature consideration that they rather thought we excelled, in respect of the punctuality with which we arrived at our stations and the smoothness of our travelling." "I wish," he wrote, during his visit to Philadelphia and the South in 1842, "you could see what an American railroad is, in some parts where I have now seen it. I won't say I wish you could feel what it is, because that would be an unchristian and savage aspiration. It is never enclosed or warded off. You walk down the main street of a large town; and slap-dash, headlong, pell-mell, down the middle of the street, with pigs burrowing, and boys flying kites, and playing marbles, and women talking, and children crawling, close to the very rails—there comes tearing along a mad locomotive with its train of cars, scattering a red-hot shower of sparks (from its wood fire) in all directions; screeching, hissing, yelling, and panting; and nobody one atom more concerned than if it were a hundred miles away. You cross a turnpike road; and there is no gate, no policeman, no signal—nothing to keep the wayfarer or the quiet traveller out of the way but a wooden arch on which is written in great letters 'Look out for the locomotive;' and if any man,

woman, or child don't look out, why it's his or her fault, and there's an end of it."

When he revisited the States in the year 1867, he seemed rather angry with some phases of his railway journeying. "The railways," he declared, "are truly alarming—much worse (because more worn I suppose) than when I was here before. We were beaten about yesterday as if we had been aboard the *Cuba*. Two rivers have to be crossed, and each time the whole train is banged aboard a big

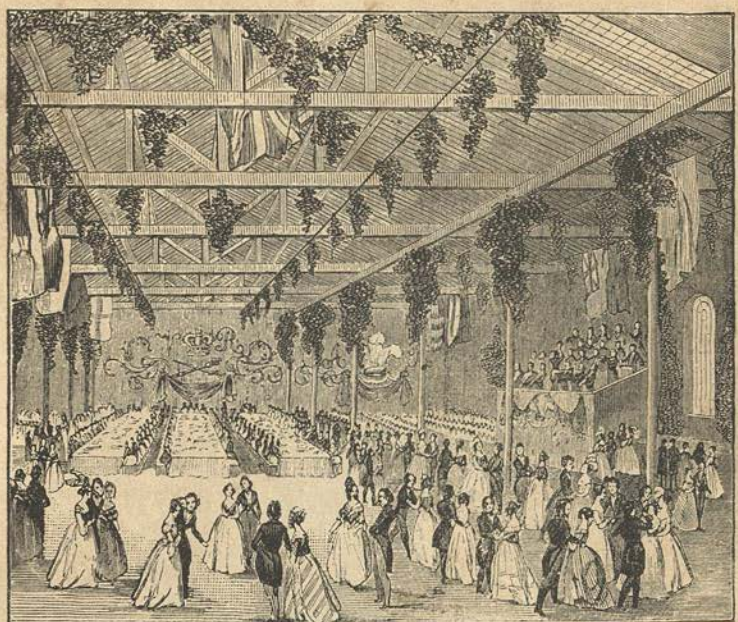


LATEST TYPE OF LONDON AND SOUTH-WESTERN EXPRESS ENGINE (7 FT. 1 IN. DRIVING WHEELS).

steamer. The steamer rises and falls with the river, which the railroad doesn't do; and the train is either banged up-hill, or banged down-hill. In coming off the steamer at one of these crossings yesterday, we were banged up such a height that the rope broke, and one carriage rushed back with a run downhill into the boat again. I whisked out in a moment, and two or three others after me; but nobody else seemed to care about it. The treatment of the luggage is perfectly outrageous. Nearly every case I have is already broken. When we started for Boston I beheld to my unspeakable amazement, Scott, my dresser, leaning, with a flushed countenance, against the wall of the car, weeping bitterly. It was over my smashed writing desk. Yet the arrangements for luggage are excellent, if the porters would not be beyond description reckless."

Charles Dickens has not been allowed a monopoly on this subject. American criticism of our railways has been as severe as the novelist's strictures of the tracks in the States. A favourite run of American travellers on reaching the Mersey is to go down to the Peacock Inn, at Rowsley, on the Midland, for Chatsworth, the Duke of Devonshire's place. They are delighted with the old grey-stone house, and its quaint garden in the village, and with the park, and the art treasures of the Cavendish mansion; but they find the ordinary railway carriages crampy and stuffy, and going through the tunnel they calculate that the train is indulging in a "darned crawl."

At a watering-place two years ago the author dined in company with an American lady and her son. They were travelling through England, and thought



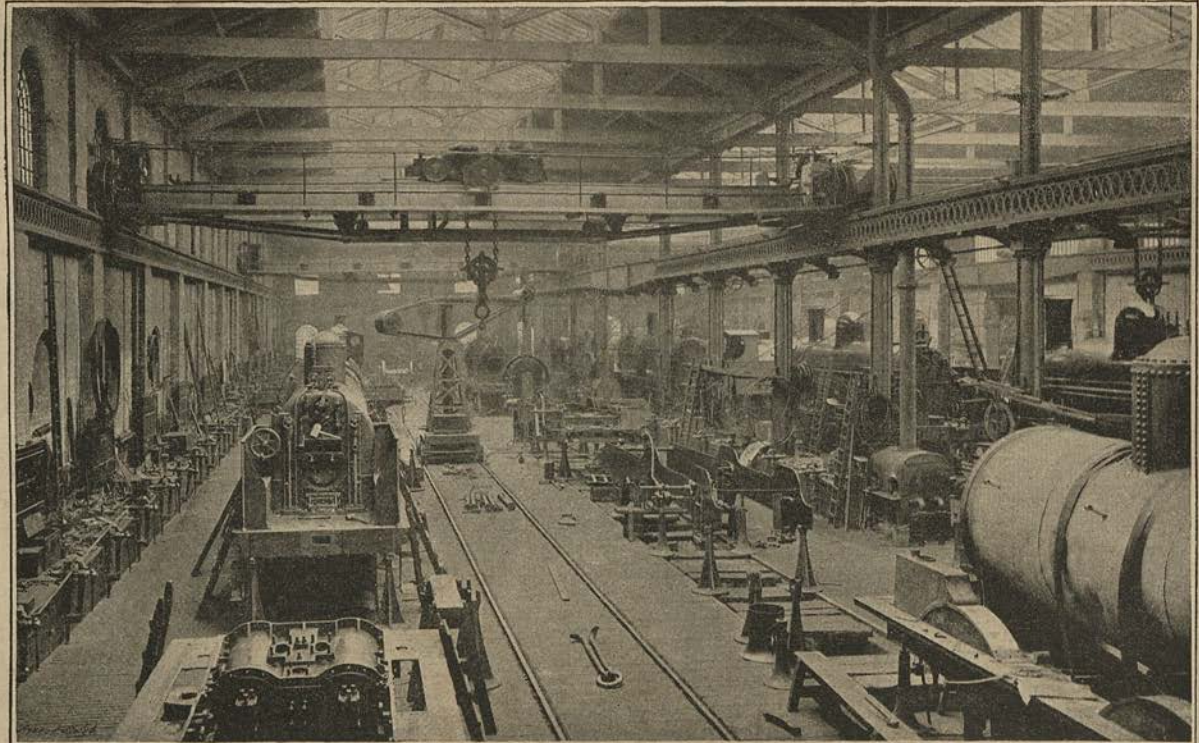
RAILWAY FÊTE AT CREWE IN 1843.

it a worn-out country. The lady was particularly incensed against our mode of railway travelling. She had come down from Scotland by the West Coast route, and the express, lurching a little at Shap, had disturbed her equanimity, and given her son such a fright apparently that his hair was still standing on end. She was nearly choked in the small compartment, uneasy because she was locked in, and so upset

by the rattle and roar of the express that she wished she was back on her clearing in "Am-meri-ka." Our stations were dirty and noisy, our railway porters rude and uncouth, and our carriages execrable; but she was quite satisfied with our railway speed. The train, nevertheless, was not running a mile a minute, and its speed was accelerated and its clatter intensified in the lady's mind by the state of her nerves.

A locomotive has been placed on the London and North-Western Railway that can travel a mile a minute without much straining. It is the outcome of Mr. Webb's engineering skill—a compound engine, with a long boiler and an intermediate combustion chamber, carried on four pairs of wheels, uncoupled, its high and low pressure driving-wheels, seven feet one inch in diameter, being in front of the firebox. The locomotive, designed to work the heavy passenger traffic over the West Coast between Euston and Carlisle, weighs in working order 52 tons 2 cwt., and is $6\frac{1}{2}$ tons heavier than the ordinary express passenger-engine. It is conspicuous for its length and look of power; and when the "Greater Britain," of which a view has already been given,* cleared Crewe Works on the 29th October, 1891, and with its huge body and large wheels, a picture of burnished brass and shining steel, took its preliminary canter to Chester, it aroused much admiration by its strength, speed, and bearing. Romance ran much faster than the locomotive, however, and it was glibly asserted that the new engine

* *See* Vol. I., p. 9.



THE ERECTING SHOP AT CREWE

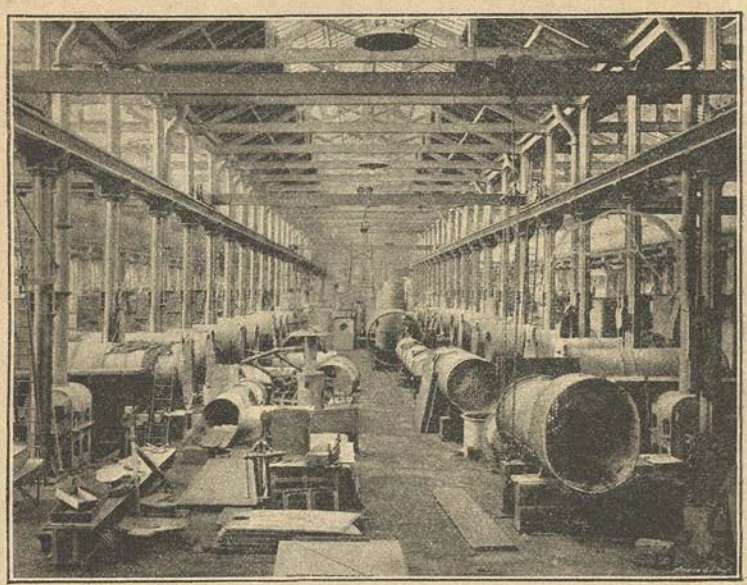
could easily traverse one hundred miles in an hour. What speed she could make if her fire was banked up, and the driver let her have free play, it is difficult to estimate. Probably she would exceed eighty miles an hour; but on such a run, though the leading wheels are fitted to a radial axle, and can take the sharpest curves with safety, the passengers in the bogie carriages would be apt to sway, and the more timid travellers perhaps feel rather uncomfortable. On her trial trip from Crewe to London on November 4th the same year, the locomotive made very good running, especially considering that all her parts and gearing were quite new, and had not been worked into condition. The train consisted of the engine, tender, and twenty-five coaches, and ran to Euston in four hours two minutes, including a stop of twenty-one minutes at Rugby. Between Crewe and Rugby her average speed was 41·18 miles per hour, and between Rugby and town 44·59 miles per hour. The following is the official record of her working:

	Running Times.		Distance Miles.	Speeds per Hour.
Crewe	dep.	11. 4 a.m.	...	...
Whitmore	pass	11.25 „	10½	30·00
Stafford	„	11.42 „	14	49·41
Rugeley	„	11.55 „	9¼	42·69
Lichfield	„	12. 6 p.m.	8	43·63
Tamworth	„	12.14 „	6¼	46·87
Nuneaton	„	12.33 „	13	41·05
Rugby	arr.	12.54 „	14½	41·42
„	dep.	1.15 „	...	...
Blisworth	pass	1.46 „	19¾	38·22
Wolverton	„	2. 0 „	10½	45·00
Bletchley	„	2. 7 „	5¾	49·28

Official record (*continued*):

	Running Times.		Distance Miles.	Speeds per Hour.
Leighton	pass	2.15 p.m.	6½	48·75
Tring	„	2.28 „	8½	39·23
Watford	„	2.45 „	14¼	50·29
Willesden	„	2.58 „	12	55·38
Euston	arr.	3. 6 „	5¼	39·37

The latter part of her journey was through rain, and



THE BOILER SHOP AT CREWE.

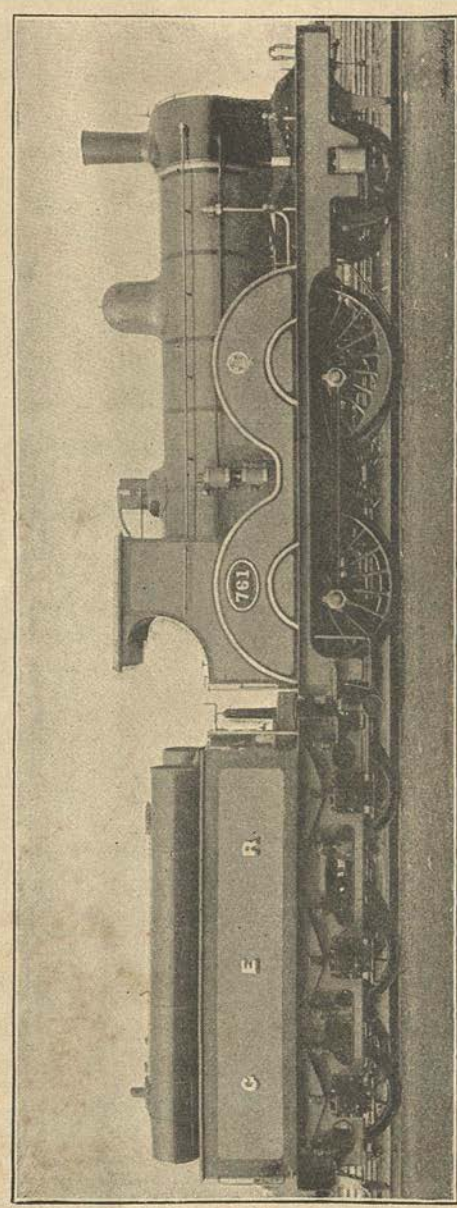
all along the tracks she was buffeted by a strong side wind; but in the twelve-mile run from Watford to Willesden she went at a speed of 55·38 miles per hour, and no doubt that will be considered quick enough for the business man in a hurry, or even for the lover impatient to reach his betrothed.

At the request of Sir Walter Foster, a return was placed on the table of the House of Commons in 1892, showing the number of fast trains running between London and fifteen great English towns, and

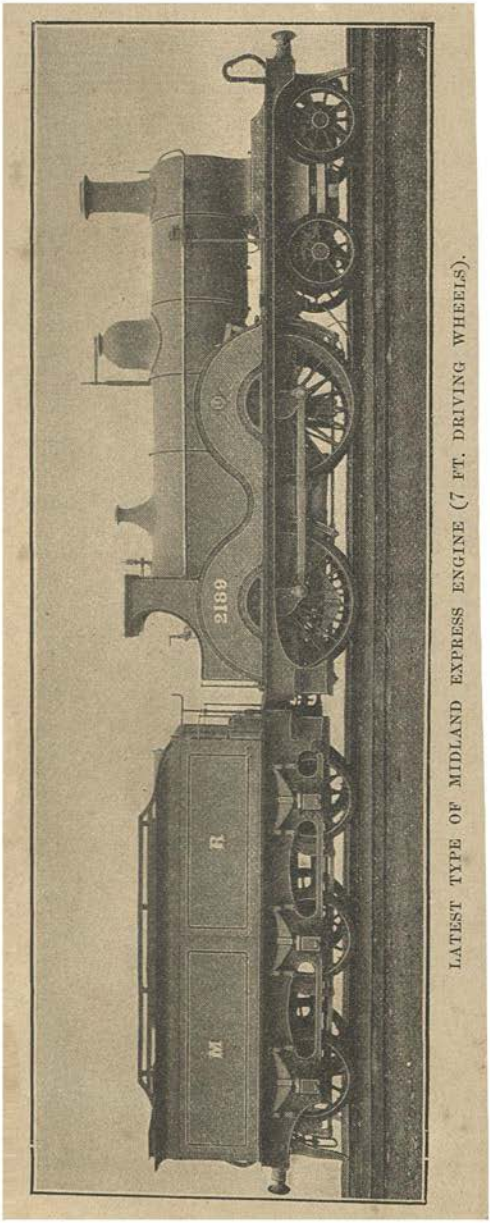
RUGBY STATION—THE DOWN PLATFORM.

the speed they made. The service between London and Bristol by the Great Western included seventeen expresses; the Great Northern sent eighteen down to Hull, the same number to Newcastle, and back again; the Great Eastern had twenty-three going to and from Norwich; Birmingham had thirty up and down, Sheffield had thirty, Bradford had thirty-two, Leeds thirty-four, Nottingham thirty-five, Liverpool forty, and Manchester

forty-six. The slowest speed per hour was on the Great Eastern, the quickest Norwich train only making a pace of 38·3 miles. The fastest train was on the Great Northern, the afternoon train from town to Sheffield. It left London at two o'clock, was due in Sheffield at ten minutes past five, did the journey in three hours and ten minutes, and travelled at the average speed of 51·157 miles per hour. The Great Western and the London and North-Western maintained an average speed of



GREAT EASTERN OIL-BURNING EXPRESS ENGINE (7 FT. DRIVING WHEELS).



LATEST TYPE OF MIDLAND EXPRESS ENGINE (7 FT. DRIVING WHEELS).

from 45 to 47 miles an hour; and the Midland, in their express service from London to Nottingham, upheld the average speed of 51·6 miles per hour.

A writer in the *Times*, who is an authority on "Railway Punctuality," has analysed and criticised the parliamentary return. He points out that the average rate of speed for the Midland Company is based upon the actual running time between stations, stops at stations being deducted; while in the case of every other company the calculation of speed is based on the total

time occupied between the two terminal points. Reading between the figures and the notes in microscopic type about fog, frost, and holidays, he draws, with a touch of humour, the following conclusions :—

"It does seem unquestionable that the Great Eastern fully deserves its reputation as the most punctual line in the country. The North-Western comes out, as might have been expected also, as distinctly the most punctual of the three great companies between London and the north. The Great Northern, which is undoubtedly heavily handicapped by its North-Eastern and North British connexions, comes out an indifferent second; while the Midland would be unduly flattered if described as an indifferent third. But the North-Western has done better than beat these two companies, for between Manchester and Leeds its punctuality compares with that of the Lancashire and Yorkshire, and distinctly does not suffer by the comparison; and to beat the Lancashire and Yorkshire in punctuality is a thing to be proud of."

Since the return was made the author has received from the locomotive department at Derby the following table, showing the booked speed per hour of the Midland express to and from Scotland in October, 1892 :

SPEED OF 10 A.M. ST. PANCRAS TO GLASGOW, AND 10 A.M. GLASGOW TO ST. PANCRAS.

10 a.m. St. Pancras to Glasgow.	Booked Speed per Hour.
St. Pancras to Leicester	51·8
Leicester to Normanton	49·7
Normanton to Skipton	46·6
Skipton to Carlisle	47·3
Carlisle to Dumfries	50·7
Dumfries to Kilmarnock	49·7
Kilmarnock to Glasgow	45·0
Average speed throughout, London to Glasgow	49·2

10 a.m. Glasgow to St. Pancras.	Booked Speed per Hour.
Glasgow to Kilmarnock	44·0
Kilmarnock to Dumfries	49·7
Dumfries to Carlisle	46·0
Carlisle to Skipton	47·7
Skipton to Normanton	46·6
Normanton to Leicester	49·2
Leicester to London	52·2
Average speed throughout, Glasgow to London	48·8

The locomotive bears the impress of power; but in the eyes of the ordinary passenger it possesses little beauty. The modern type of engine, however, is a vast improvement on the old style of machine, such as the "Twin Sisters" of the year 1827, which was a combination of telescope and tower, built on six wheels. Not only the Midland, but the Great Northern, South-Western, Great Eastern, and Brighton expresses illustrated in this chapter are models of symmetry, sound construction, and mechanical movement; and their paces show that the engineer and his craftsmen have not laboured in vain.

LATEST TYPE OF LONDON, BRIGHTON AND SOUTH COAST EXPRESS ENGINE (6 FT. 6 IN. DRIVING WHEELS).

CHAPTER XXXV.

THE DEMAND FOR SHORTER HOURS FOR RAILWAY MEN.

The Man in Charge of the Clattering Train"—Unrest Among Workers—The Strike Fever—How the School Boys "Came Out"—Strikes of Railway Men—The Stubborn Fight on the Scotch Lines—Folly and Riot—The Coal Struggle in England: Its Effect on Railways and Trade in General—Overwork on Railways—Dismissing a Stationmaster, and What Came of It—The Terrors of a Breach of Privilege—An Interesting Night in the House—Directors at the Bar—The Speaker's Admonition—Recommendations on Railway Work—The New Act—Robberies on the Line—Ned Farmer, Detective and Poet.

Mr. Punch, the clever reflector of our national life, who has given us such humorous "Sketches in a Train," full of Mr. Harry Furniss's grotesque caricatures of Mr. Gladstone and his collar, Sir William Harcourt and his numerous chins, and Mr. Balfour, the demon golf-player, can be serious and pathetic enough if the event is fitting, and he has rarely produced a more striking and touching picture than that of "Death and his Brother Sleep," a title taken from "Queen Mab." There had been a railway collision at Eastleigh, and Major Marindin attributed it to the fact that the engine-driver and the stoker had failed to keep a proper look-out. Both men were asleep, or nearly asleep, on the engine, for they had been on duty for sixteen hours and a half at a stretch!

Particularly during the past twenty years there have been unrest and dissatisfaction among workers by hand

against small pay and long hours of labour. There has been cause enough for this impatience and discontent. The shuffler, whose life is a pretence, and who has always one eye on the clock in his anxiety to cease his so-called employment, is only worthy of contempt; but the *working-man*, who comes punctually to duty, who takes a pride in his work, who puts brain as well as hand into his handicraft, who has learned the lesson of thrift, and who brings up his family uprightly, is the backbone of England, and deserves the best consideration, for it is on him that the prosperity of the nation depends. Genius, inventive skill, and capital are of little account unless there are also the willingness and the strength to execute—to weld, mould, and handle the material they supply.

The sense of right in the English breast has begun to recognise that the artisan has aspirations and feelings outside the workshop and that he has a mind capable of sensible thought. The trade union has spoken emphatically, and fought desperately on his behalf. The legislator has pleaded the toiler's cause. Parliament, glib in talk but chary in act, has at last listened to the imperative outcry of the industrial community, and has done much towards improving the conditions of labour, which were in many trades a disgrace to our civilisation and our Christianity. The political economist, the employer of labour, and the shrewd workingman who gives a comprehensive glance at the world's trade, all look askance at a universal eight-hour day; but without enforcing such a rigid limit of toil, and

without imperilling Great Britain's commercial position, much can still be done to make our industries more acceptable, especially to the crowding hands in our great cities, and to the servants on our great lines of railways.

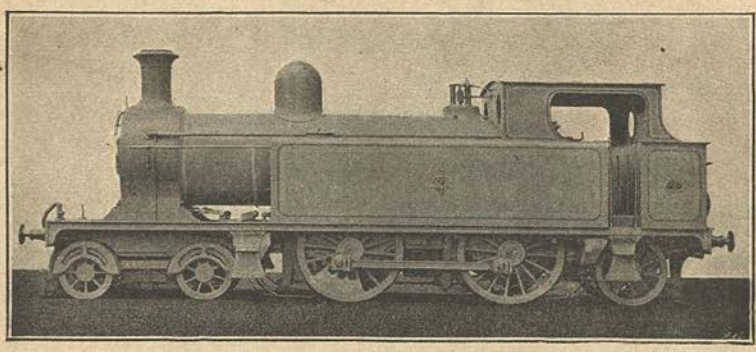
There is a disposition here and there to treat industry fairly. Some employers, persuaded by trade-union, arbitrator, or conscience, have given higher wages, and instances have recently arisen in which firms have made the experiment of profit-sharing, to the mutual advantage of themselves and their workers. On some railways, at an uncomplaining sacrifice of dividend, generous concessions have been made in the way of shorter hours and better pay. On others the greed of gain, or the fear of vanished dividend, still obtains; and men toil wearily and hopelessly at their tasks till Nature can endure no longer, and confusion, error, and disaster make a tragic scene in life's drama. The time is at hand, however, when these cases of overwork will surely become only a tradition. The signalman and the engine-driver are the two servants by whose steady, faithful work railway travelling is made possible and safe; and even the old-fashioned, proud, pompous, obstinate director is beginning to doubt the wisdom of his policy towards the men on the line; to wonder whether, after all, quite apart from any sentiment, it would not be more profitable to ease a little in hours and pay those who, with courage and vigil, earn his dividend, than gloomily to sanction the drawing of big cheques as compensation for injuries sustained in railway

smashes. Besides, public opinion has been loudly and incessantly wagging its tongue on this question of railway overwork; and Parliament, not only by Select Committee of the House of Commons, but by Labour Commission, has during the past few years been making earnest and patient inquiry into industrial grievances, with the intention of doing what it can to remedy them.

Hope is sanguine that the era of strikes is drawing to its close; that arbitration and conciliation will take the place of the old rough methods of settling labour disputes. These duels remind one of the passionate, unthinking couple who, differing in opinion as to the amount necessary for household expenses, wrecked all the furniture and parted, with hatred in their hearts. Strikes always prove more of a curse than a blessing. Homes are broken up, men demoralised and embittered; and trade, driven to other localities, or, worse still, to other lands, never returns in its old bulk or with its old profit.

The strike of servants on the Taff Vale, Rhymney, and Barry Railways, which began on August 7th, 1890, was not in itself of long duration; but it led to the Cardiff strike, which dragged on for some time, and out of which sprang the prosecution and imprisonment of a trade-union leader. At this time there was much restlessness among many toilers of the country as to their conditions of labour. The London Dock Strike, in August of the previous year, did much to paralyse trade, and drove some shipping altogether from the Thames. The loss to commerce was roughly estimated

at three millions, but the men practically succeeded in their demands, obtaining increased pay and shorter hours. Both skilled and unskilled labour became dissatisfied, and within the next few months there were many strikes—strikes of bakers, omnibus men, gas stokers, policemen, postmen, and railway men. Six



A TAFF VALE PASSENGER ENGINE

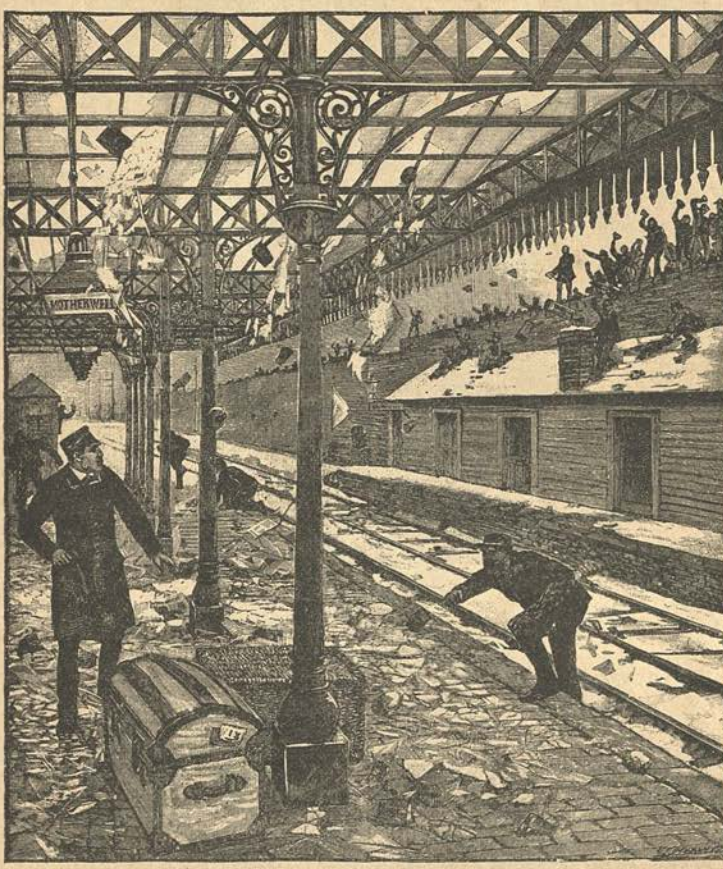
companies of the Grenadier Guards struck at Wellington Barracks, finding the drill and guard duty unendurable, and were sent, on their good behaviour, to Bermuda; but the most grotesque development of modern agitation against the duties and responsibilities of life was the strike of schoolboys.

In several towns the little fellows, brimming with the courage that made "Tom Brown's School Days" breezy, resolved that they would not be downtrodden by the masters, and "marched through the streets, demanding shorter hours, half-holidays on Wednesdays, 'no cane, and no home work.'" Some of these strikes were difficult to settle, but the schoolboys were easily

overcome, for there are people who believe in another definition of "striking"—in the doctrine "no cane, no character." The Welsh railway men greatly embarrassed the companies. The passenger and goods traffic on the lines affected were almost entirely suspended, and the trains that did run were so erratic with regard to time that they made traders waiting for merchandise, and travellers anxious to get homeward, marvel. When the block had lasted a week, the most urgent demand of the men was conceded, and they returned to work.

But the strike on the Scotch railways at the end of the same year was far more stubborn and disastrous. The men demanded a ten-hour day, an eight-hour day for shunters, more pay for overtime and Sunday work, and the establishment of a mileage system for passenger and goods trains. The railway workers, thinking it an astute move, left their duties abruptly in Christmas week, confident that by this course they would utterly disorganise the traffic. On Christmas Eve no fewer than nine thousand railway servants were idle; and on the North British, the Caledonian, and the Glasgow and South-Western Railways travelling developed itself into two phases. It was either quick and hazardous, or so slow, and affording such long pauses for expletive and reflection, that it was better not to start on a journey at all. Manufacturers were crippled for want of fuel and means of transit. Goods trains were massed here and there, hopelessly blocked or without drivers. Merchants and traders were at their wits' end. People became unpunctual and uncertain; for some trains made no

pretence of starting, and others were so late in arriving that many a business engagement was broken, many



RIOT AT MOTHERWELL: WRECKING THE STATION.

a master's equanimity disturbed, and many a workman's tenure shaken. The public, at first, were inclined to sympathise with the men, who had requested concessions in vain, and had, in some cases, been kept at

work for grievously long periods without rest; but people entirely free from selfishness are rare, and when, owing to the strike and utter disorganisation of traffic, passengers were subjected to irksome delay and the spoiling of their holiday, loving couples had to put off their weddings, and heads of families suffered bitter disappointment at the non-arrival of turkeys, geese, and venison intended for Christmas feasting, there were murmurs and at last indignant protests.

The railway companies were condemned for permitting the traffic to enter chaos. Even the President of the Board of Trade was asked—just as though he possessed the good fairy's wand in the pantomime—to stop the strike. The companies, in their desire to guard the interests of the shareholders, declared the profits on working to be so little that they were not justified in granting the concessions, that the men had committed an unpardonable wrong in deserting their posts, and that they could not treat with trade-union leaders in the difficulty. The traffic receipts decreased ominously. The public clamour grew louder. The companies remained firm through loss and storm. The men—or, at least, the reckless, thoughtless section of them—finding that they were unable to move the companies by the embarrassing method they had adopted, and that with the employment of outside engine-drivers and patient working the directors were gradually improving the traffic, had recourse to violence. The most exciting scene was at Motherwell. The railway servants resisted the ejectment of some of their mates

from the cottages, and a riot followed. Great damage was done to the station-house and the signal-boxes. Some of the rioters frolicked with a locomotive on the turn-table, and others threw stones at passing trains. The Riot Act was read. The military were called out. The disturbance was crushed, some of the men were sent to prison. Attempts were made to wreck trains, but, fortunately, they were unsuccessful, and only one serious accident occurred. There were some cowardly deeds done during the strike. One man, fierce with hate, crept upon a bridge, waited for a train to pass, and threw a missile at the driver, splitting his head open.

The strike on the Glasgow and South-Western Railway only lasted a fortnight; but on the North British and the Caledonian it continued for nearly six weeks, the directors refusing to accept the trade-union officials as the representatives of their old servants in any negotiation. The men finally abandoned their demands on condition that the companies withdrew all prosecutions against them, restored as many to work again as possible, and consented to receive deputations from the different groups of workers to consider their grievances. On January 30th, 1891, the drivers, guards, and signalmen were busy trying to cope with the work of the North British line, and the Caledonian men soon followed their example; but many days elapsed before the traffic resumed its old regularity.

The loss in traffic receipts alone during the six weeks of the strike was estimated at £128,000, and the Earl of Wemyss stated in the House of Lords that the dispute

had resulted altogether in a loss to the railway companies of nearly £300,000, and to Scotland of one million sterling. The *Times* said: "The result of the strike established two points. In the first place, the ability of the companies to cope with a strike of large dimensions; and in the second place, their power to ignore the officials of the union." On the other hand, the men said the result of the strike established this point—that the fight between capital and labour, though it had proved disastrous in many ways, had convinced the directors that the grievances of the men, particularly with regard to the long hours of labour, must be ameliorated.

The men correctly gauged the effect of the strike. Capital is frequently more powerful than labour, a fact that came piteously home to the wives and children of the Durham miners in the prolonged strike during the spring of 1892—a struggle that paralysed the iron trade of the north so completely that the platelayers working on a new line in Essex had to suspend their labour because they could not get the rails. But capital, though bound to fight for its own hand, dislikes to fritter away its gold in conflicts with workmen. The Scotch railway companies undoubtedly won. The men were worsted, and it was a bitter experience to them to find that their trade-union leaders were merely the scoff of railway directors. Yet, as is often said by both political parties when hopeful in defeat, the railway servants gained a "moral victory."

While this book was in the press the country

was in the throes of another industrial struggle. In July, 1893, the coalowners gave notice to the miners that, owing to the depression in trade, they must insist upon a reduction of 25 per cent. in wages. The men refused to submit to the reduction, and quitted the pits. At first little inconvenience was felt. The demand for coal was met by the accumulated stocks at the collieries, and sellers not under contract did a profitable trade at rising prices. By-and-by, however, the demand far outran the supply. Many mills were closed because manufacturers could not get fuel, and the railway companies had to suspend sections of their train services. Production in various industries ceased, trade was checked, and passengers made only imperative journeys. All the mineral-carrying lines suffered severely, and in the middle of October the loss to the Midland Railway Company in decreased goods traffic was put down at more than half a million. In the meantime the miners endured much want and misery. The trade-union funds became exhausted, and public sympathy and help waned, the trader and the householder buttoning up their pockets at last, and expressing their indignation at the stupidity of the conflict. In Yorkshire and Derbyshire some of the miners grew desperate in their need. They attempted to wreck a train; they demolished more than one colliery office; and at Featherstone, near Pontefract, they made such a serious disturbance that the Riot Act was read, the military called out, and two men

shot dead. Fuel became so scarce that house-fire sorts were sold in London at £2 per ton; and the poor, who by the irony of misfortune are driven to a dearer market than the rich, gave 2s. 6d. per cwt. for slack that was little better than pit-bank dirt. Masters and men held independent conferences to consider the situation; a few coalowners permitted the miners to resume work at the old rate of wages; and a notable effort was made by Mr. Batty Langley, the Mayor of Sheffield, to settle the dispute by the pacific influence of conciliation. But it was not till the fourteenth week of the struggle had been reached that a joint conference of masters and mining leaders was held in London with the earnest purpose of ending the quarrel. The pitmen by this time were in dire necessity, grimly fighting for what they styled "a living wage;" and some of the coalowners, though they scarcely liked to confess it, were feeling the stoppage keenly. The proposals for settlement were futile. So grave did the situation become that at last Mr. Gladstone suggested Government intervention, with Lord Rosebery as mediator. The offer was accepted; and the Foreign Secretary presiding at another joint conference in London, on November 17th, succeeded by common-sense and tact in bringing the disastrous dispute to an end. The men returned to work on November 20th at the old rate of wages; but the most important outcome of the conference was the establishment of a Board of Conciliation, consisting of an equal number of coalowners and miners, with an

independent chairman, which for a year at least will have power to determine the rate of wages. Through industrial disorganisation and loss of trade the struggle cost the country nearly twenty millions; and among the effects of the prolonged tussle were the fall of railway stocks and the shrinkage of dividends.*

In the discussion on the railway strikes spoken of above, fair-minded people did not deny that both on the English and Scotch railway systems the day's work was too long, in some cases to a grievous extent. Attention was called to the subject in Parliament, and a Select Committee of the House was appointed to inquire how the excessive hours of labour on the line could be lightened, or, if needful, restricted by legislation.† Evidence was given by men in the service of all the great railway companies, by signalmen, shunters, platelayers, and porters; and by drivers, firemen, and guards. Some of the testimony was diverting. Some of the stories were piteous, showing that even on prosperous, good dividend-paying railways, the men were kept on duty a scandalous length of time.

During the sitting of the Committee a remarkable case of overwork aroused public indignation. James Choules, a goods guard on the Midland and South

* In January, 1894, the Manchester, Sheffield and Lincolnshire directors announced that not only would the ordinary stock receive no dividend for the second half of 1893, but that as many as seven preference stocks were also left out in the cold.

† The Select Committee on Railway Servants (Hours of Labour) was appointed in 1891 after debate in the House of Commons on the motion introduced by Mr. F. A. Channing, in which he asserted that the excessive hours of railway servants constituted a grave social injustice, and were a constant source of danger both to the men and the travelling public.

Junction Railway, was crushed to death between the buffers of two waggons at Weyhill sidings on October 16, 1891. The accident, which occurred at three o'clock in the morning, was not the fault of the shunters. The weather was wild and stormy; and Choules, who had been on duty as much as 22 hours 18 minutes consecutively, was in such a condition of physical collapse, or so nearly asleep, that he could not see how far the waggon rebounded, or how closely the engine followed it up. Major Marindin attributed the accident to the terribly long hours the man had been called upon to work; and on making a searching inquiry into the man's railway life for some days previous to his death, was amazed at the enormous number of hours he had been on duty—at what appeared the almost sardonic heartlessness of the railway company in keeping the man at his post to the utmost limit of his endurance. His daily record of duty for nearly a fortnight, without counting the time spent in coming from and going to his home, was never less than 12 hours 58 minutes, and one day it actually reached 23 hours 15 minutes.

The man was practically at work day and night. His short and wearied glimpses of home must have been a mockery. He had not time to go to bed. He had to snatch sleep, as locomotives take in water, as he went along. His only consolation—if he thought at all in the dreary time that led up to his dreadful death—was that he was not the only slave in the sidings; for Annalls, the driver, had been on duty 23 hours 48 minutes; the fireman 18 hours 40 minutes; and the

porter 14 hours 8 minutes. "The booked hours were too long, while the actual hours worked were beyond all reason," said Major Marindin in his report, and he added: "The company have, since this accident, made some alterations in their time-table which have, I am told, somewhat improved the punctuality of the trains; and something to lessen the fearfully long hours of duty might be done by a re-arrangement of the hours and the institution of a proper system of relieving the men when necessary, but I fear that nothing but a considerable addition to the staff will altogether remove the evil, which has become intolerable."

MAJOR MARINDIN.

(From a Photograph by Fradelle & Young, Regent Street, W.)

Out of this inquiry into the hours worked by railway servants arose one of the most remarkable scenes that characterised the last session of Lord Salisbury's administration. The Select Committee took some startling evidence concerning the time on duty and the condition of the permanent way on the Cambrian Railways; and soon after they had taken it, John Hood, the station-master at Montgomery, was dismissed from his appointment. The action of the company caused a good deal of comment in the country. There were whispers

about coercion and vindictive management; then outspoken indignation among the railway servants themselves. The outcry became louder when the directors declined to reinstate Hood on the petition of the people of Montgomery. A question was asked in Parliament, and many more were asked outside, as to the real cause of the man's dismissal. The Select Committee, determined to sift the matter, and to give both sides fair play with their tongues, took evidence from men and masters. The chairman of the Cambrian Railways, and the then manager, were examined. They denied that Hood had been dismissed simply for giving evidence before the Committee, and alleged certain derelictions of duty against him. They also denied the statements made by Humphreys, a railway servant, as to the condition of the line and the excessive hours of duty. The Select Committee, shortly before Parliament adjourned for the Easter recess, issued a report in which they said:

MR. JOHN HOOD.
(From a Photograph by John Owen, Newtown.)

"The witness, John Hood, was, by a resolution of the directors of the Cambrian Railways Company, at a meeting held on the 6th of August, dismissed from the service of the company, mainly in consequence of charges arising out of the evidence given by him before your Committee, and laid before the directors by John Conacher, then manager of the railway; and James Frederick

Buckley, John William Maclure (a member of this House), and William Bailey Hawkins, directors of the company, and John Conacher, did, at a meeting at Crewe on the 30th September, 1891, held in consequence of an application by John Hood for the rehearing of his case, at which John Hood was present, call him to account, and censure him for the evidence he gave before your Committee, in a manner calculated to deter other railway servants from giving evidence before your Committee. Your Committee have not deemed it to be part of their duty to express any opinion as to how far the conduct of John Hood, and the irregularities disclosed by his evidence, as well as the character of his evidence, were calculated properly to forfeit the confidence of the directors of the Cambrian Company."

Robert Collingwood, a mineral guard on the North-Eastern Railway, said he had been called a renegade, and dismissed by his fellow railway servants from his position as secretary to the Tyne Dock Branch, because he had given evidence before the same Committee; and Sir Michael Hicks-Beach suggested that both sides—that both sets of charges—should be considered by the House together. A distinct breach of privilege had, however, been alleged against the directors of the Cambrian Railways. The House was averse to deal with the Collingwood case in association with Hood's dismissal; and at the sitting on April 5th, Sir Michael Hicks-Beach felt bound to move "that Mr. John William Maclure do attend in his place, and that Mr. James Frederick Buckley, Mr. William Bayley Hawkins, and Mr. John Conacher do attend this House."

Jealous of its honour and power, the House never brooks delay on a question of privilege. The most lenient honourable members of both political creeds thought

that the directors had acted indiscreetly. Some strong partisans considered that they ought to be severely punished for the grave misdemeanour of intimidating witnesses giving evidence for the benefit of the House and the nation; that they should, at least, like the late Mr. Bradlaugh, be imprisoned in the Clock Tower. Years ago Mr. Speaker Onslow wondered what calamity would happen after "naming" a member; but his curiosity was scarcely so intense as that in the railway world as to the fate of these unhappy directors. What would become of them when they appeared on the floor of the House for judgment? Even Parliament was not quite clear on this point. In some quarters there was a notion that they would be served like the enterprising newspaper proprietors of the eighteenth century, who, daring to report the speeches of honourable members, were heavily fined, and compelled to apologise on their knees at the bar of the House.

The offending directors were summoned to the bar on the night of April 8th, 1892. The House was crowded. Every seat was occupied in the body of the building, and honourable members thronged the gangways. The peers clustered over the clock. The Strangers' Gallery was filled. The ladies in their gallery looked with curiosity through the grating from behind their bar at the men standing at the other bar beneath. The scene was an impressive one. There had been a little tendency to joke about the incident, but the House thoroughly realised that it must not merely uphold its own dignity, but defend freedom of speech and guard

truth. Mr. Maclure, with a bow to the Speaker, stood up in his place. Mr. Buckley, Mr. Hawkins, and Mr. Conacher, who had been escorted from the lobby by the Sergeant-at-Arms, stood in a row at the bar, hat in hand. The Speaker, gravely addressing the directors, informed them of the purport of the special report, and said it was alleged against them that they had dismissed the stationmaster mainly in consequence of charges arising out of the evidence given by him before the Select Committee, and had censured him for that evidence in a way calculated to deter other railway servants from giving evidence before a Committee of the House.

The gentlemen grouped at the bar were then asked if they had anything to say in answer to the charge, and Mr. Maclure, not at all perturbed, promptly replied from his place on the front bench below the gangway on the Ministerial side of the House. He read his speech in a loud but not aggressive voice, saying, amid indications of dissent from the Liberals, and cheers and cries of "Order!" from the Conservatives, that in dismissing the stationmaster they had acted entirely in what they believed to be the discharge of their duty as trustees of the Cambrian Railways Company, and for the general interests of the public. They had not the slightest intention of deterring any railway servant from giving evidence before the Committee, and if they had unintentionally infringed any privileges of the House, they tendered the fullest expression of their unqualified regret. Mr. Buckley took a manuscript

out of the depths of his tall hat, and, speaking in a low tone, said he fully concurred in the words that had fallen from Mr. Maclure's lips, vaguely adding, "I thank you."

The directors, at the order of the Speaker, then withdrew from the bar, and the House proceeded to consider what penalty should be meted out to them. Sir Michael Hicks-Beach moved that they should be called in and admonished for committing a breach of privilege. Mr. T. P. O'Connor moved an amendment that they would not have purged their contempt till they reinstated the stationmaster or compensated him. Mr. Channing, the champion of the railway servants in the House and out of it, was in favour of giving Mr. Buckley and Mr. Conacher into the custody of the Serjeant-at-Arms. During the debate many a member betrayed his search into parliamentary record, or recalled some exciting breach of privilege in the past; and Mr. Gladstone, still vigorous and enthusiastic, said he recollected hearing a reprimand delivered from the Chair to one of the most distinguished members of the House —Mr. O'Connell, but in that case it was, he thought, a charge of perjury, or something very near it, and Mr. O'Connell refused to apologise for what he had done. The amendment was in the end rejected, and the original motion carried by the large majority of 349 against 70.

It was past midnight when the Serjeant-at-Arms, bearing the mace, again conducted the offenders to the bar in the midst of the crowded House. Though

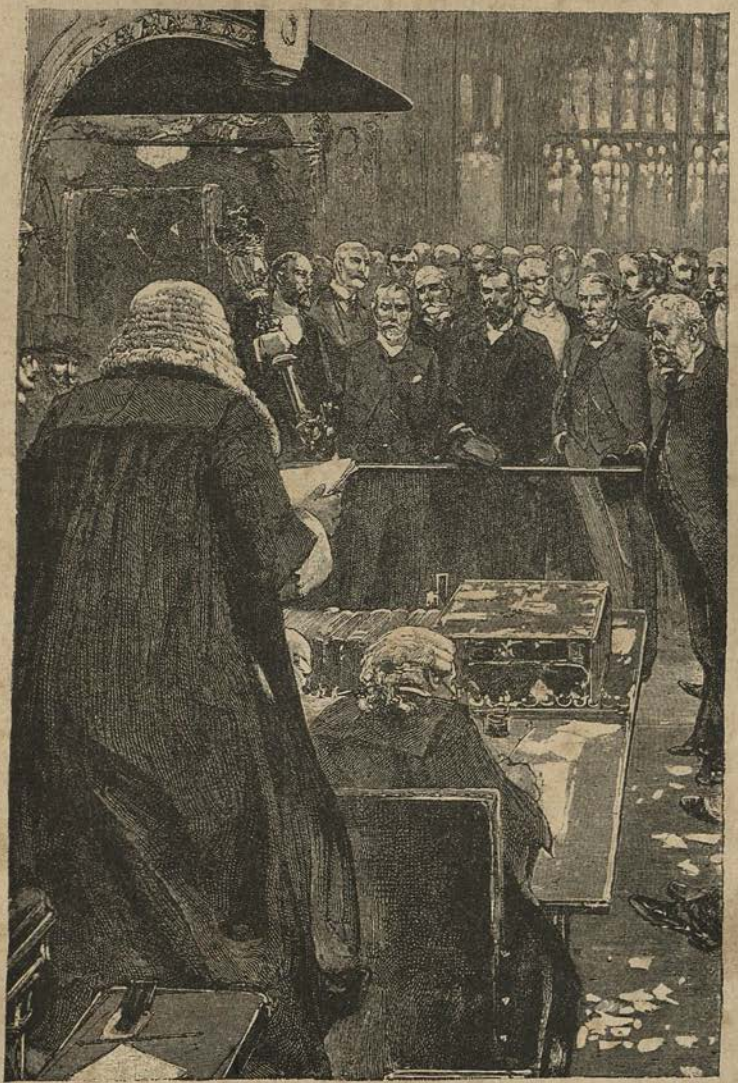
they may have "felt their position acutely," their demeanour in very trying circumstances was nevertheless quiet and dignified. In the course of his austere rebuke the Speaker said:

"The privilege of which a breach has been committed by you is that you have, by your conduct, intimidated a witness before a Committee of the House. Your conduct towards him is calculated to deter others from giving evidence. So dear is this special privilege to this House that I must remind you that at the commencement of every Session, and therefore at the commencement of this Session, in the very first day of the meeting, two resolutions are passed by this House. In one of these it is declared that if any person has given false evidence in any case before this House or its Committees, this House will proceed with the utmost severity against such person. The second of these resolutions expresses the determination of the House that if it shall appear that any person has been tampering with any witness in respect to any evidence to be given to this House, or to any Committee thereof, or—and this is a point to which I would specially direct your attention—shall directly or indirectly endeavour to deter or hinder any person from appearing to give evidence, the same is declared to be a high crime and misdemeanour, and this House shall proceed with the utmost severity against such person. These are resolutions which are fresh in the memory of this House, and which I am surprised that those gentlemen whom I now see before me at the bar should have so lightly passed over. It is a very grave and serious offence you have committed. The House in its judgment, and in its mercy, I should add, has decided that I should admonish you. I do most seriously admonish you, and I warn you that any repetition of this offence, for it is an offence, will be visited by this House with its very severe rebuke and disapproval. A great principle has been infringed, the principle that evidence given before this House shall be free and unrestrained. I warn you against ever repeating an offence of this kind. The offence is a very serious one, for it is no less an offence than that of trying, however unintentionally it may be in certain circumstances, to deter witnesses from giving evidence before Committees of this House, and thus to disturb and taint the very source of truth. I believe I am acting, as I wish to

act, as the interpreter of the feelings of this House, when I say that I seriously admonish you, and hope that your example will act as a deterrent to others, and that it will also act as a warning to yourselves never again to presume to commit a like offence against the character, the dignity, and the purity of this House."

There is in the English heart a strong sense of justice; and John Hood, though dismissed, was not neglected or forgotten. His cause was championed on many a platform, and he became a conspicuous figure in the world of labour. It was generally considered that he had been harshly treated. People were quite ready to admit that employers must act with firmness; but it was thought that he had been held too tightly in the grasp of discipline. A vast number of workers sympathised with him, and their sympathy was not a mere sentiment. The platelayer, the shunter, the signalman, and the driver subscribed to a fund for his benefit, and Members of Parliament interested themselves in his welfare. A substantial sum was presented to him, and he shrewdly applied it to the erection of a dwelling at Ellesmere, which he has styled "Trevelyan House," as a reminder of the staunch support of Sir George Trevelyan, who had ably and courageously defended him. John Hood's chequered career proves that good does sometimes spring out of evil; and his dismissal, though it caused him much anxiety and misery, was a blessing in disguise.

The Select Committee on Railway Servants' Hours of Labour, after many sittings, expressed the following opinion :—



THE SPEAKER ADMONISHING THE DIRECTORS AND MANAGER OF THE CAMBRIAN RAILWAYS.

Overwork on the railways of the United Kingdom is widespread and, in general, systematic, and not accidental or exceptional.

The demands of the men for a fair day's work, so far as they have been formulated through their various Unions, are reasonable, but cannot under existing circumstances be obtained by means of conciliation or arbitration.

While steps have been taken on some railways in the right direction to bring hours within fair limits, the returns of overtime work and the evidence proved that there has not been, and is not likely to be, general and effectual reform, if this matter is left to take care of itself.

Railways are State-granted monopolies, and the State has the right and the duty to insist on safe working and just conditions of labour, including reasonable hours.

The State can exercise this right and discharge this duty better through the Board of Trade, the department to which the conditions of safe railway working are referred, than by direct legislative restriction.

The varied conditions of the railway service make it advisable for the Board of Trade to deal with each case on its merits.

The Board of Trade must have compulsory powers to enforce their recommendations.

The Railway Commissioners should be made a court to enforce penalties and adjudicate on questions arising out of the exercise of their powers by the Board of Trade in the restriction of hours of labour.

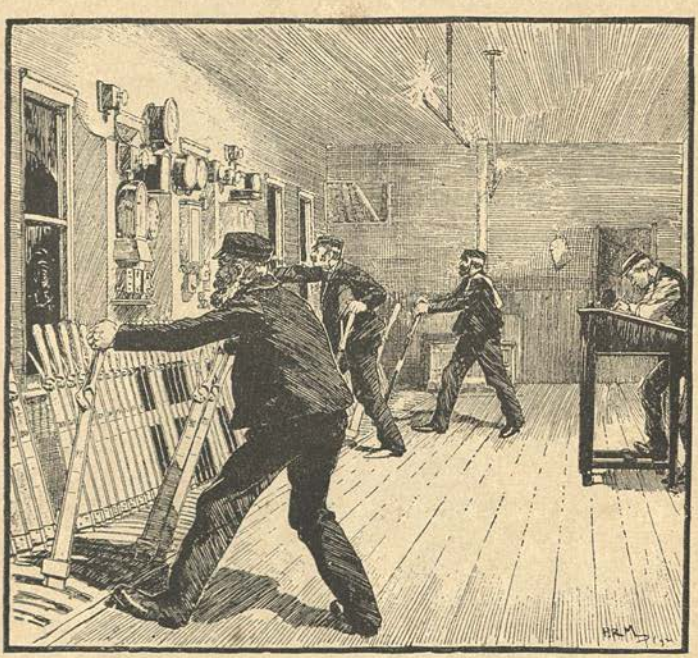
Your Committee therefore recommend that the necessary powers be given to the Board of Trade and to the Railway Commissioners by legislation without delay.

Since these recommendations were made, Parliament has been busy on behalf of railway servants. With the return to power of Mr. Gladstone's Government in July, 1892, and the appointment of Mr. Mundella to the Board of Trade, industrial questions gained in interest; and that of railway servants' hours speedily received earnest attention. The Railway

Servants' Hours of Labour Bill was introduced by Mr. Mundella, read a third time in both Houses, and passed. It sets forth that, if it is represented to the Board of Trade by any class of railway servants that their hours of labour are excessive, and do not provide sufficient intervals of rest, the Department may order the railway company to submit to them such a schedule of time for the duty of the servants as will bring the actual hours of work within reasonable limits, regard being had to all the circumstances of the traffic. It also provides that if the railway company fail to comply with the order, the Railway Commission may compel them to do so, or inflict a daily fine so long as the default continues. Mr. Mundella believes the new Act will kill overwork on railways; nevertheless Sir John Gorst on the one hand, and Mr. John Burns on the other, sought to make it more drastic, being convinced that a legislative limit of eight hours for signalmen and ten hours for other servants should be fixed.

The difficulty of fixing a maximum was, however, deemed insurmountable, so varied are the conditions of railway labour. Mr. Mundella said there were signal boxes in London where more than ninety trains passed in an hour, and where no signalman could work eight hours. The author knows a signal-box in the country in which eight hours' duty would be a delightful holiday. The cabin is just on the fringe of the village. A hawthorn hedge divides

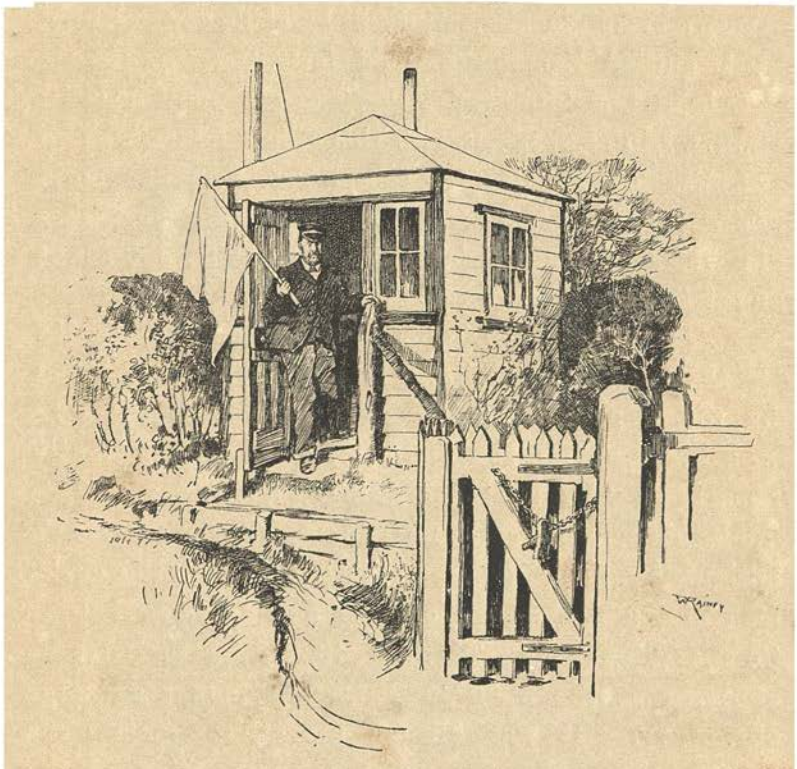
the line from the bowling-green, and the doorway to this pleasant haunt is not more than a dozen yards from the signal-box steps. Trains are few. The signalman is a dandy, and an adept at bowling.



A BUSY SIGNAL-CABIN (Charing Cross).

He spends his leisure on the green; and the last time the writer saw him he had partly doffed the corduroy of the company, and wore a lawn-tennis blouse and lawn-tennis shoes, and altogether looked a good deal more like a prosperous shopkeeper than a humble signalman, as he skilfully sent the ball towards the jack.

The Act, notwithstanding the difficulty of equitable legislation on railway labour, is an admirable safeguard against excessive work on the line, trusting, as Lord Playfair remarked, "very much to the force



A COUNTRY SIGNAL-CABIN.

of publicity," rather than to a rigid limit of hours that would make capital shy, fetter trade, and torment the passenger; for, however sincere may be the traveller's zeal for the welfare of the railway servant, he becomes an awkward customer if the train is five

minutes late, even though the five minutes may have been lost in relieving driver or signalman.

England has fortunately produced no such daring railroad speculator as Jay Gould, the well-known American millionaire, who died fabulously wealthy, but quitted the world amid few regrets. George Hudson, the "Railway King," was a puny financial operator in comparison with this selfish figure. Sharp practice has not loomed conspicuously in our home railway management; still there have been some cases in which railway officials and servants have brought upon themselves disgrace and discredit.

At an inquest in London, a short time ago, relative to the death of a railway fireman, who was killed by the open carriage door of a passing train, as he was leaning over the footplate, a juryman bluntly remarked: "I should like to hang a director." This frank citizen would, no doubt, have derived a mitigated satisfaction from the position of the chairman of the Tenbury, Worcester and Ludlow Railway Company, on August 27th, 1846, for on that day he appeared at the Mansion House to answer a charge of forgery. It was alleged that the figures on a cheque, signed by the prisoner as chairman of the company, had been altered to a much larger amount, and paid in notes, which were cashed by the accused

* The Railway Servants' Hours of Labour Act lately received the Royal assent; and on September 19th, 1893, a circular was issued by the Board of Trade to the railway companies, calling their attention to its provisions, and asking what steps they were taking voluntarily to bring the actual hours of work of their servants within reasonable limits.

at the Bank of England. The prisoner was duly committed for trial; but the grand jury ignored the Bill.

The directors of the Charnwood Forest Railway Company, on April 11th, 1885, made the unpleasant announcement to the shareholders that although only £46,000 of debenture stock had been authorised, at least £150,000 worth had been dealt in. The fraud aroused much indignation and chagrin, especially as it was ascertained that the officials who had so dishonestly enriched themselves had fled, had managed to escape to the wrong-doer's refuge—Spain. The then secretary of a Scottish railway, who had been "held in high esteem for works of benevolence," was sentenced at Glasgow, on December 28th, 1879, to penal servitude for life, for fraud.

JAY GOULD.

(From a Photograph by Sarony, New York.)

In the collection of Derbyshire books given to the county town by the late Duke of Devonshire is "Ned Farmer's Scrap Book." Ned Farmer was for many years a railway detective, and he did good work as chief in that department on the Midland, tracking many a felon, and ruthlessly analysing many a romance and mystery till only the slim fact of robbery or faithlessness remained.

Like Hawkshaw, the detective, in "The Ticket-of-Leave Man," Ned Farmer was not only brave, but tender-hearted; and the constant contact with the seamy side of life in nowise blunted his fine nature. His recreation—a strange contrast from his business of thief-catching—was the composition of the songs and poems contained in his "Scrap Book," and through all these rhymes there is evidence of kindliness. His piece "Little Jim," which gives a pathetic picture of the death of a pitman's child, is more than a rhyme—it is a poem, and is worthy of a higher place in "the niche of fame" than it has reached, though it has become a school-book ballad, and is a familiar piece in many a home, nearly every English lad knowing the pathetic story beginning—

> The cottage was a thatched one, the outside old and mean,
> Yet everything within that cot was wond'rous neat and clean.

There is a robust ring and swing in his verses to "King Steam":—

> Hurrah for the rail! for the stout iron rail,
> A boon to both country and town,
> From the very first day that the permanent way
> And the far-famed fish-point was laid down.
> 'Tis destined, you'll find, to befriend all mankind,
> To strew blessings all over the world;
> Man's science, they say, gave it birth one fine day,
> And the flag of King Steam was unfurled.
>
> Then hurrah for King Steam, whose wild whistle and scream
> Gives notice to friends and to foes,
> As he makes the dust fly, and goes thundering by,
> So stand clear, and make room for King Steam.

Aye! a monarch, I say, hath he been from the day
He was born; on that glad happy hour,
Until now, when we know the vast debt that we owe
To his daring, his speed, and his power!
See the birds left behind, as he outstrips the wind
By the aid of key, sleeper, and metal;
Great Watt little thought what a giant he'd caught,
When the infant was boiling a kettle.

They may tell, if they will, that our monarch can kill,
'Tis a fact, I admit, and well known,
But fairly inquire, and there's this to admire,
The fault is but rarely his own.
With the high and the low he's his failings, we know,
And his moments of weakness, no doubt.
Since the world first begun there were spots on the sun,
Then why should King Steam be without?

Ned Farmer was succeeded by a detective who apparently became demoralised by his own occupation, for, after quitting the company's service, he was, on November 20, 1877, sentenced to two years' imprisonment, for the Goncourt turf frauds. As a rule, however, the men in the detective department of a great railway do not fall, like the persons they track, into disgrace. They are perhaps a little restive under criticism when they fail in their quest; but on the whole they are patient, enduring, smart, and sometimes do clever and important work that has more than money value to the company. They plan and watch without much hope of fame; but when they have run their man to earth—or rather caught him at dawn in a siding encumbered with stolen goods,

or at noon on the station platform as he is stepping jauntily into the express, or considerately stop the mail for him at a wayside station at midnight just as he is congratulating himself on escape—they do their duty as neatly as the gentlemanly-looking officers who are acting strictly according to law in Frith's picture.

CHAPTER XXXVI.

ENGINE-DRIVERS AND SIGNALMEN.

Aristocratic Engine-drivers—Absence of Mind on the Footplate—Perils and Escapes—An Express in Collision—How an Engine-driver is Trained—Curious Rides on Railways—Going Over a New Line—In Search of Facts at Railway Accidents—The Drivers' Strike on the Midland—An Exciting Night—Erratic Driving—A Driver's Desperate Deed—The Signalman and His Work—Some Dramatic Incidents—Old Fashioned Signals—Modern Modes of Signalling—How to See Round a Corner.

Some years ago an English aristocrat, with a liking for more robust recreation than the ordinary patrician cherishes, donned the garb of an engine-driver, took his place on the footplate, and controlled the locomotive, even on a long journey, with care and skill. The Archduke Francis Ferdinand of Austria has a similar fondness for railway work. He has considerable knowledge of the mechanism, action, and habits of the locomotive, and is, for an amateur, a very capable engine-driver. Not long ago he drove the express from Wiener-Neustadt to Gloggnitz, and kept well up to his working time-table, arriving punctually at his destination. In fact, he was far more careful than the engine-driver on the Northern Railway of France, who steamed out of Beaumont for Paris, and found, to his utter confusion, after going some distance, that he had left the train behind him! He had been signalled out by the station-master, but the carriages were not coupled to the

tender, and away went the engine, leaving the passengers laughing, scowling, and shrugging their shoulders.

The engine-driver of sound mind requires more nerve than the soldier, for sometimes he drives fast towards a certain peril, knowing all the while that if he escapes death it will be only by a miracle. Take the case of Mark Inglis, for instance. In November, 1890, he was the driver of a special train chartered to convey an officer of the Scots Guards from Carlisle to Langholm. The train was despatched in front of the Pullman express, and went like the wind until it reached Diamond points, when it plunged down the embankment, killing the driver and breaking the fireman's legs. Both men had had ugly shakes previously at the very spot where the train struck the points, and felt thankful when they got over it in safety; but they did not like to complain to the officials of the line. The engine-driver has had far more hair-breadth escapes than Othello. He has been burned by the back-draught, the rush of fire and smoke out of his engine fire-hole, and yet kept his hand on the regulator. He has been blown off his engine in a gale; and blown off his footplate by explosion. He has been knocked from his post, and

THE ARCHDUKE FRANCIS FERDINAND.
(From a Photograph by Adèle, Vienna.)

seriously injured, by a tree that fell down an embankment and across his locomotive; and in winter he has often been frost-bitten—the upper half of him nearly frozen to death.

"Yes, it's sharpish in cold weather," said one driver. "I once had a fireman—he'd been a fitter, and been brought up in a warm shop. It was Christmas Eve. When we were getting water at Tamworth he put his hand into the tender to feel if it was getting full, and then he put his hand on the engine rail, which was covered with ice, and in a minute his hand was frozen to it. As he tore it away the skin peeled off his fingers just for all the world as if he had put them on a red-hot bar. He was also frost-bitten in the chest, and was eight weeks off work."

In the shock of collision the driver has been flung off the footplate, pitched on his head, and been seriously injured. Now and then, having done all he can to avert disaster, he leaps off the engine that is plunging to destruction, and, perhaps, escapes unhurt. He has had to run his train for miles with a lifeless fireman for his comrade, his mate's head having come in contact with some low bridge; he has had to choose whether he should slacken speed or increase it on finding a bullock, a horse and cart, a pack of hounds, a flock of sheep, or a herd of elephants on the track.

At Gaberston, Alloa, on the North British Railway, a carter was crossing the line with a horse dragging a soil-laden wagon when the animal took fright, breaking away from the cart, which stood on the up-line in the

path of the express from Edinburgh. The locomotive dashed against the cart, smashing it to pieces, overtook the horse, and actually ripped the harness off its back, but did not injure the animal. It is too often a human being that the engine strikes, and tosses, with grim contempt, out of its way, or pounds to ruin. The driver finds a splash of blood on the head-light, or a shred of clothing clinging to the driving-wheel, and these apparently trifling discoveries account for the scarcely perceptible jerk his locomotive gave ten miles south, where a mangled body is lying in the four-foot. "A few months ago," says a writer in the *Strand Magazine*, "I was shown by a locomotive superintendent of one of the principal northern lines a dead bird which, strange to say, though a very rapid flyer, had met its doom through the agency of the locomotive. This bird was a sparrow hawk. The driver of the train relates that he was travelling at the rate of sixty miles an hour near Melton, when, just on the point of entering a long tunnel, he observed fluttering in front of the engine some object which he at first mistook for a rag, but when, on leaving the tunnel, he went forward, he discovered, to his astonishment, that it was a sparrow hawk, which had become entangled between the hand-rail and smoke-box of the engine, and was held there firmly by the pressure of the wind. It was not quite dead when taken out of this curious death-trap, though one eye had been destroyed. There is no doubt that it met its death accidentally, as a hawk can fly quicker than the fastest trains travel—so the drivers say, who often

observe them flying low down in the hedgerow and keeping up with the train till some unwary small bird, frightened by the noise, flies out of the fence, when the hawk pounces on it and devours it."

However freely one gives imagination the rein, it cannot outrun the incidents of the driver's life. He runs the express from London Bridge to Dorking, and is going through the station at a speed of forty miles an hour, when he sees a heavy portmanteau fall from the platform on the line, and a porter leap down in the face of death to drag it away. Driving the Stockport and Leeds express through Marsden, he hears a startled cry, and finds that his train, going at the rate of forty-five miles an hour, has struck a shunter walking in the six-foot, whirled him completely over into a sitting position, then struck him on the head with the foot-board, dislocating his neck.

There are few more thrilling stories of railway travel than the incident that befell the Manchester express on its way from town, by the Midland, on January 27, 1892. It was running at full speed, near Leicester, with that light, easy, swinging motion that deceives you as to the real quickness of progress, when two goods trains, shunting on the other line, came into collision, and one of the trucks fouled the track of the express. The powerful engine dashed the goods waggon in pieces; but the shock of collision was so severe that the locomotive, tender, three horse-boxes, and two bogie carriages jumped the rails, ploughing the permanent way for eighty yards. The Pullman car and other

carriages in the rear part of the train, however, kept the track. The express was crowded with passengers, but, though there was much alarm, no one was injured. Sir James Allport, who was travelling in the Pullman car, said he scarcely felt the shock; but in the front portion of the express there was ample evidence of its force. The driver trembled, not with fear, but with the shake of the impact. The engine was disabled. The tank of the tender was pierced. The front of the horse-box next the tender was wrecked; and there is no doubt that if a carriage occupied by passengers had been coupled next the tender, even though the front compartment was empty, there would have been loss of life. The escape of the passengers from serious injury was remarkable, and will be quoted by the advocates of quick travelling as a proof that highest speed is the safest, the inference being that if the train had been running at only thirty instead of nearly sixty miles an hour, the engine would have been forced back on its own carriages, and there would have been a scene of disaster and death.

A young man, discontented with the wages he got for pushing a barrow laden with Manchester goods, gave up the work in disgust, saying, "I'll go and be an engine-driver." But a locomotive, with a train-load of passengers behind it, is not a plaything for a novice to toy with, and the cotton-goods porter found his attempt to get on the footplate of an engine a hopeless one. The engine-driver requires a special training. Not only must he possess good sight, be free from colour-

blindness,* and strong in nerve; but he must know how to drive and take care of his engine. The driver, as a rule, grows up on the railway. He begins work, when a boy, in such engine sheds as those at Crewe, Derby, and Doncaster, and, as a cleaner, gets to know the make of a locomotive. In time he is promoted to be a fireman, He is the mate, the comrade, of an experienced driver. He is taught to feed the locomotive, and finds that she requires almost as much dieting as a human being, now going well with a low fire, and now needing fuel right away up to the fire-hole. He becomes familiar with the controlling mechanism of the engine, with her beat and tricks in running. He learns the lay of the line. He grasps the meaning of the signals. He gets many a shrewd hint from the fat driver who has driven the express for years; and some day, when he is secretly congratulating himself on the fact that he is acquainted with everything about the line, from the loneliest signal cabin to the busiest junction, that he is capable of taking the West Coast mail through to Scotland on the wildest night that ever lowered on Shap Fell, his day-dream is broken by the instruction that he must, for awhile, try his hand as the driver of a goods train. If he puts the brake on his ambition, and drives the goods train well,

* Professor Hardy, in a paper read before the British Medical Association in 1891, urged that the railway companies should employ a skilled ophthalmic expert to test the eyesight of their servants, and mentioned "the case of a man who had been so short-sighted for years that he could not distinguish a man from a woman at ten yards' distance, and yet, within twelve months, had been re-examined and passed by the railway surgeon with the so-called practical tests—that is, naming coloured lights shown through a long tube, and naming signals exposed at a certain distance."

he is afterwards elevated to the position of driver on some local passenger train; and finally, possessing both experience and shrewdness, climbs proudly on the foot-plate of an express bogie passenger engine, and, perhaps, realises his dream as the fearless but careful driver of the night mail.

Some years ago, in my capacity as a journalist, it was my duty to spend a good deal of time on railways. I have caught trains at all times in all sorts of remote places. I have ridden on the engine. I have jogged along at night in the guard's van, trying to write by the help of the flickering light of the stove and the lamp. I have—like the Duke of Edinburgh, when the express left him stranded at a wayside station—ridden in a fish train to keep an important engagement. I have ridden, too, in a coal truck, in a contractor's office on wheels, and in a van converted for the time into a prison, on the floor of which, among the straw, a desperate criminal reclined, shamming feebleness and prostration, and on the watch to escape. On January 9, 1884, I had a very long day on a railway. Making my way to Stairfoot Junction early in the morning, I climbed the roughly-made embankment, and started in a curious train, made up of heavy uncushioned carriages, along the Hull and Barnsley line, which at this time had not carried a passenger for money, though it was within measurable distance of opening. I jogged and jolted for miles along the newly-made track with many adventurous holders of railway stock. In a deep cutting we all crowded the permanent way, and

the line was unlocked by Colonel Gerard Smith, with a silver key. Then the directors spread themselves fan-like across the track, and half-a-dozen pressmen climbed upon the engine, grouping about the head-light, and everybody was photographed amid laugh and jest, for hope, throbbing within the investor's breast, said that the railway would soon pay a good dividend, and that the Great Alexandra Dock at Hull would get a lion's share of the shipping of the port. In fact, no one dreamt that he would have to wait until the first half of 1892 for a dividend, and that it would then be at the rate of $\frac{3}{4}$ per cent. for one year.

I have gone to railway accidents in prosy and also in dramatic fashion. Once I narrowly escaped being cut to pieces by an express as I was making my way down the line to an accident at South Wingfield, a fearful accident, in which the engine ran off the line into the country lane below, and then plunged into a stream, the tender overturning on the driver or stoker and crushing him terribly as he lay on the embankment. I have been chased in the dead of night by an infuriated householder and his ferocious dog, as I crashed through his garden and his cucumber frame, and rolled into the cutting at Parkwood Springs, in my eagerness to get information with regard to a serious accident that occurred there. I have ridden to the scenes of railway accidents, now on the footplate of an engine, and then in the breakdown van. I have been allowed to run down to the disaster in a first-class bogie carriage, and, through the kindness of officials, the express

has been slowed to drop me practically in the midst of the wreckage. I have been fetched away from a dance to go to a railway collision; I have been roused from sleep, after a hard day's work, to be told at two o'clock on a wintry morning that a hansom is waiting outside, and that I must get down the line somehow to a railway smash twenty miles away. On New Year's Day, 1885, when busy with note-book in the midst of a crowd of people who were listening to a speech by Mr. Mundella, M.P., on the site of a new building in Sheffield, a little printer's devil wriggled towards me, and rudely interrupted my task of reporting the right hon. gentleman's utterances by thrusting a telegram into my hand. It read: "Another smash at Penistone. Many killed and injured. Send reporter." Leaving the statesman in the midst of his rhetoric, I hurried to the scene of an accident that accentuated the notoriety of the stretch of line associated with previous disaster; for the killed, the injured, and the wrecked train brought very sharply to mind the peril of travelling with flawed axle or cracked tyre.

SIR M.W. THOMPSON, BART.
(*From a Photograph by A. Sachs, Bradford.*)

But I do not recollect a more exciting night on a railway than that of August 5, 1887, when nearly four thousand engine-drivers, firemen, and cleaners came out on strike on the Midland Railway. The directors, for the better working of the traffic, insisted upon making

new terms with the drivers. These men alleged that they were entitled to be guaranteed six days' work per week. They thought they were roughly handled by the company, and determined, at a certain time, generally agreed upon, to desert their engines. The directors, who have always pursued a bold policy, resolved to insist upon the new conditions of work, and to cope as best they could with the traffic, should the drivers take the extreme step of forsaking the line.

Sir Matthew Thompson, the then chairman of the company, firmly indicated the attitude of the Midland in a letter that aroused admiration on one hand and indignation on the other, writing:

"The Midland alone among the large railway companies has hitherto included in its conditions of service a guarantee that drivers and firemen shall be paid for six days of ten hours, although they may not have been employed for the full time. After many years' experience the directors and chief officers were satisfied that this condition—although undoubtedly valued by the men—was prejudicial to the efficiency and discipline of the service, and on that account only felt it to be their duty to alter it. I need not say how deeply my colleagues and I deprecate a dispute of this kind, with its attendant inconvenience to the public, loss to shareholders and traders on the Midland Railway, and separation from old and hitherto zealous and faithful servants. I told the delegates that we would do anything consistent with our duty to secure them against injury or injustice under the new regulations. Unfortunately, nothing would satisfy them but the withdrawal of the circular, which was impossible. I do not wish to speak harshly of the action of the men; the public must form their own opinion. It is, perhaps, inevitable that in a large railway service there should be agitators who consider it their mission to foment discontent amongst their fellow-servants, even by gross and shameless mis-statements. Unfortunately for themselves, the men appear to have listened to the suggestion that by a concerted

strike they could cause such an amount of public inconvenience as would force the Board to give way to them. Directors who would surrender to such pressure what they have deliberately and for good reasons adopted, and believe to be essential to the efficiency of the service, would be unworthy of the trust reposed in them."

The entire Midland system was in a ferment. Telegraphic messages were sent hither and thither by trade-union leaders, urging the drivers to maintain a firm attitude, and to come out on strike at all hazard. The company in the meantime were busy promoting drivers from their shops, or engaging them from other lines. At Derby, Birmingham, and St. Pancras there was suspense and anxiety. When I reached Derby station at night, the platform was thronged with hurrying messengers, or obstructed with whispering groups. Loiterers were driven off the platform by the police, and towards midnight the doors leading from the station to the town were closed. Gossip was in her wildest mood, and passengers were in a flutter. The strangest stories were current—that the drivers intended to put on the brake at midnight, and to leave the trains in deep cutting and in tunnel, indifferent as to what became of the passengers. In some cases they actually took this step, and one driver was sent to prison "for deserting his engine on the main line." As twelve o'clock struck, several drivers, who had run into Derby station, left their engines and walked doggedly across the platform, wiping the oil and grit off their faces and shaking the company's coal dust from their feet.

The next day the traffic of the Midland was in a

curious jumble. The engines, as far as possible, were manned by officials and old drivers or firemen secured by hook or by crook. But some whimsical men got on the footplate in the company's need, and the adventures of drivers and passengers were for a few days exasperating, exciting, and by no means free from peril. Scarcely an engine ran out of the depôt or station without three or four men grouped about the firehole, and it did not beat very far on its way before there was dismay in the quadruple driver's breast with regard to some blunder that threatened disaster. There were errors in firing, in watering, bungles with regulator and with brake, and the misreading or ignoring of signals. The narrow escapes from collision were amazing, and nobody would have been very surprised if the engines had blown up, and flung their amateur drivers into space. There were several humorous breakdowns; but the company were fortunate, and managed to struggle through the fight with the men without serious accident, though not without much dissatisfaction on the part of the public, for passengers were woefully late or stranded on their journeys, and goods were delayed so long in transit that some perished by the way.

The drivers on strike were, in the meantime, miserable. They sat brooding at home, or sought comfort in taverns. In the public-houses about the Morledge, in Derby, there were many contrasts. In some taprooms out-of-work drivers, maudlin, wept over their rashness and folly. In others the men bragged about

their wrongs, and swore they would not be trodden upon by the directors, and cursed the company. When passion and drink had lost some of their power, the men endeavoured to get back to work again. It was suggested, on their behalf, that the dispute should be settled by arbitration; but the directors, unflinching, and determined at any cost to teach disaffection a lesson, said the vacancies on their engines had been filled, and "there was nothing to arbitrate upon." Places were, however, found for some of the drivers, and they were content, after their bitter experience, to man their engines on the company's terms.

The traffic was gradually worked into its old regularity and punctuality, and the strike was soon almost forgotten, but it had two sad sequels. One driver, in despair lest he should be unable to get work, drowned his three children and himself in the river Derwent, and in his pocket was found a scrap of paper, containing this desperate commentary on the strike: "Those villains of traitors have brought me to this, and the directors and officers of the Midland Railway Company. May God forgive me for this rash act." The other grievous outcome of the strike was the emigration of a number of drivers who could not get work at home. They bade farewell, with many a pang, to the pleasant Midland tracks with which they were familiar, and to the engines they had driven in sunshine and storm, and went out, with sad hearts, to seek fortune in the colonies.

The signalman leads a lonely but often an exciting life; and if he were prone to laziness and carelessness he is always strung up to duty by responsibility. He is undoubtedly the most responsible servant on the railway. He is the arbiter of life and death. By omitting to give five beats of the needle to the man in the next cabin, telling him that there is a goods train on the line in the track of the express, he may cause a disastrous collision; by a pull of the wrong lever he may wreck the night mail. In sheer forgetfulness he may cause a lamentable accident, like the one that occurred to the Fleetwood train on the Lancashire and Yorkshire line in July, 1891, when Mr. Richard Hinchcliffe, a Lancashire cotton spinner, was killed. The pointsman at the Salford Hoist Cabin received a signal that a train was approaching; he accepted it on the loop line, lowered the home and caution signals, and on ran the train, crashing into an engine and four empty carriages that had been placed on the loop line a few minutes previously by the same pointsman's instructions. When asked why he lowered the signals, he said he entirely forgot that he had put the engine and carriages on the loop line.

The accident which took place at Norwood Junction, on the London, Brighton and South Coast Railway, in December, 1891, illustrates the occasional bewilderment of the signal clerk. A special train, crammed with rollicking schoolboys, was run into during a dense fog by a passenger train, and nearly forty lads were injured. The signalman omitted to give

the second signal for the train; but the signal clerk actually entered the special train as having passed the junction, though he acknowledged that he had not heard the bell-signal given. Major-General Hutchinson thinks he must have made two other entries—the second signal of the special train, and the first signal of the passenger train—without having heard the bells of those signals, and adds:

"The difficult question of providing a mechanical or electrical fog-signal to fulfil all necessary conditions is now receiving considerable attention, and there is reason to hope that a satisfactory solution may be shortly arrived at. The mistake on the part of signalman Clift, which was the immediate cause of this collision, might have been rendered harmless had a system of electrical interlocking been in force between the two junctions."

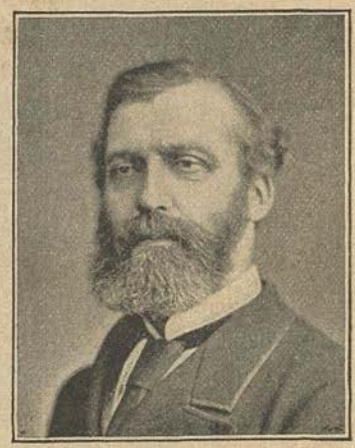
"Ulysses," who appears to be as adventurous as his classical namesake, going up factory chimneys, and down coal pits, and riding on locomotives, has given in *Chums* an interesting account of how he spent "A Day in a Signal Box," and heard two good stories from the quiet man with the lever:—

"Once, some four years ago, the famous three o'clock express from Paddington had the narrowest shave possible. My signalman had given "Line clear" for her, and she was thundering on towards him, when he received this dramatic telegram, 'Stop express; a man has been seen trying to pull the danger cord.' Hardly had he read the message when he heard the thunder of the train, but with lightning speed he threw up the starting signal on his platform, and waved his red flag. Had the driver seen him? He could not tell, but the perspiration came cold on his forehead when, looking at the central first-class carriage, he saw that the axle of the front pair of bogies was broken. That minute must have been a terrible one. Would the train stop or crash to atoms when the carriage dropped?

Happily the driver had seen him, and applying his vacuum brake with all its force he pulled the train up just as the axle flew all to pieces.

"Another story equally dramatic. It was a summer's evening, and the signalman sat waiting for the fast up express. She was just due when he heard the sound of a galloping horse, and anon a gig drove up at the station, while a breathless man shouted, 'Stop all trains—the wooden bridge is on fire!' The signalman on hearing the words simply dashed at his levers, throwing them back at danger, and then listening. Had the express time to stop? Would she thunder on the blazing bridge to her destruction? He listened from the window of his box, heard her distant whistle, knew by the hum of the rails that she had not slackened speed, felt every nerve in his body strained to its utmost tension as she came still nearer—then at last he heard her danger whistle, and with a great cry of joy fainted in his box. She had stopped at the very threshold of the burning bridge."

The signalman's task is a very onerous one, especially in contrast to his easy duty in years gone by. When railways were first opened in this country there were no signals whatever. On a train that ran from Shildon to Middlesbrough "there was no guard and no brake-van, and everything depended on the driver and fireman. It was necessary in the daytime to put a board up on the last waggon, so as to be sure they had not lost any of the train. At

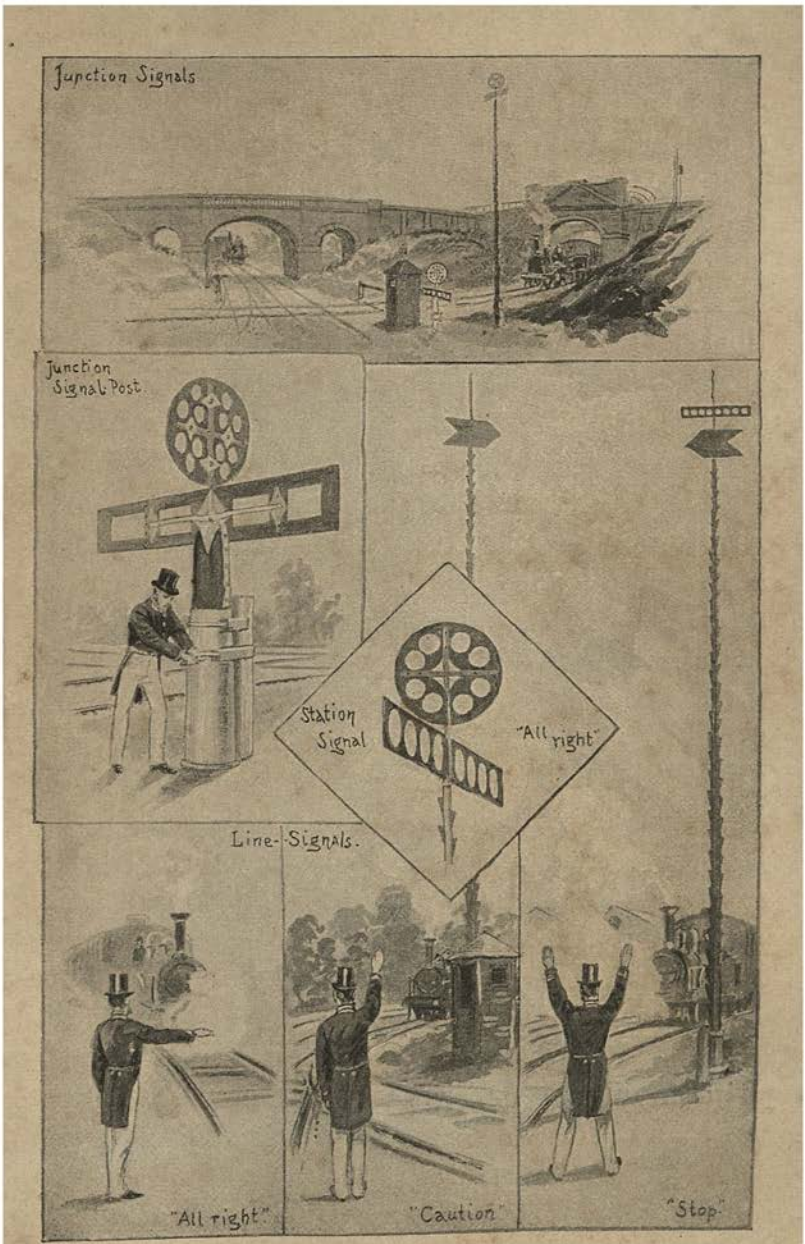


MAJOR GENERAL HUTCHINSON.

(From a Photograph by Maull & Fox, Piccadilly, W.

night a large pan of fire was fixed to the front of the tender and to the last waggon for the same purpose, and it was the duty of the fireman to keep both alight. There were no signals, and no pointsmen, each man taking care of himself and his train, and keeping out of the way of the few passenger trains run." One of the earliest signals was in use on the North-Eastern Railway at Whitwood junction. It consisted of a board which was turned to let the train go by. At night a fire was lighted on the line, and though it could scarcely be called a signal, it was a welcome beacon to many a driver.

On the Stockton and Darlington Railway one of the stationmasters hit upon a novel though homely mode of signalling. He placed a lighted candle in the window of the station-house if it was imperative that the driver should stop; and left the window in darkness if the line was clear, and the train was free to go on its way. Flags waved by hand, or run up on poles, were afterwards used as signals by day; and at night lamps showing red or white lights were hoisted on lofty posts. The disc signal was used on the Grand Junction Railway in 1837. It was fixed on a pole twelve feet high, and surmounted by a lamp. If the disc faced the train and the lamp gleamed red, the driver pulled up; but if it merely showed its edge, and the lamplight was white, the driver ran on. The old disc signal gradually gave place to the semaphore, which



RAILWAY SIGNALS IN 1844.

was adopted in 1842, and which indicated three conditions: "all right," "slacken speed," and "danger." Fourteen years afterwards, in 1856, John Saxby discovered a plan of interlocking the levers working points and signals, and his idea was put in practice at a junction in London with success; but it was not till 1859 that the first interlocking frame, the invention of Austin Chambers, was placed on the North-Western at Willesden.

The semaphore, so familiar to every traveller by rail, is the signal that has been fixed on every English railway. When its great arm stretches horizontally at the top of the post, it warns the driver to "stop;" and when it is lowered it tells him, in semaphore language, that he may "go on." At night a lamp is lighted on the mast, and as it shines through the frames of coloured glass, the signal "spectacles" that work with the semaphore arm, the driver knows by the red light that there is "danger," by the green light that there is need of "caution," and by the white light that he can dash along with a clear line and a sense of security. The signal is the engine-driver's adviser, and whether it is a home signal fixed near the signal cabin, or a distant signal put up a thousand yards away from the home signal, or a junction signal giving its warning near the facing points, it invariably proves a true friend. The signalman is generally thoughtful. Whether his many-windowed cabin stands sentinel near the railway bridge that crosses a wide

thoroughfare in a great city, and all about him is the roar of traffic and the hum of the multitude, or is perched on the breast of some crag, far away from big town and drowsy hamlet, in the midst of solitude only broken now and then by the voices of nature, or by the shriek of the express engine as she tears through the dale, he gives no heed to his surroundings. His work occupies his thoughts. He moves carefully along his iron frame, which bristles with levers, pulling one this way, or pushing one that way, opening the track here, closing it there, and raising the signal to "danger."

"It is astonishing," writes Mr. Dorsey in his book, "English and American Railroads Compared," "to see the blind faith the English engine-driver places in the block signals. In dense fogs where he cannot see a hundred feet ahead; or dark nights, when his vision is also very limited, for his head light is only an ordinary lantern, useless for illuminating the track and only used as a signal, the same as a tail light; or frequently where he has both the dark night and the dense fog to run through, yet he runs at full speed, and generally on schedule time, feeling sure that he is perfectly safe, because his block signals have told him so, and they cannot make a mistake or lie."

By the use of the block system the signalman enables the driver to bring on his locomotive with a more fearless hand, and gives a feeling of greater security to the passenger. Even the timid now

place their faith in it, for they know that the telegraph is ever flashing message from cabin to cabin, that by bell or dial signal, repeated to the sender before being acted upon, the man on guard in his glass-house by the line-side has got the track clear. The signalman is the last person one would suspect of frolic. To him "life is no joke." He does not often get a rollicking visitor like the gentleman sketched in *Punch*, Mr. Foozler, who, while waiting for the last train, wandered to the end of the platform, opened the door of the signal-box, watched the signalman's manipulations for some time in hazy perplexity, and then suddenly remarked, "'Arf a Burt'n birrer f' me, Gov'nor," thinking, as he tried to pull himself together, and to keep his silk hat balanced on the back of his head, that he was again in his favourite bar parlour, and that the levers were beer-pump handles. Nevertheless, the signalman occasionally indulges, in the way of business, in a little quiet humour. He does not vaunt of his cleverness, like some people one meets, who flatter themselves that they "can see into the middle of next week;" but it is a fact that the signalman "can see round a corner." If Dick Swiveller had possessed this wondrous power of vision he would undoubtedly have used it to confound his creditors; but the signalman is more sturdy in principle than the graceless medical student whom Dickens pictured, and only uses his capacity to see round a curve or along two lines inclining to each other

when on duty, and he does it by means of an electric current which leaps from the signal post round the corner into his cabin, and tells him by its words of light "lamp in," or "lamp out," in the little frame just above his head, and its ding on the alarm bell if the lamp has gone out, that he must be on the alert to warn any passing driver.*

* The distant signal had a curious introduction to railway work, judging from the primitive way in which, according to Sir George Findlay, it was first used. In 1846, he says, a pointsman who had to attend to two station signals, some little distance apart, in order to save himself the trouble of walking to and fro between them, procured some wire which he attached to the levers of the signals, using a broken iron chair as a counter-weight, and so found himself able to work both signals without leaving his hut. Since those days science has come to the help of the signalman; and it is possible now to signal in fog and in tunnel by a touch of the electric battery in the signal-box. An electric current is sent through the locomotive as it goes by; the circuit is made by the contact of a brush at the rail-side with the footplate, and the current rings a bell on the weather-guard.

CHAPTER XXXVII.

SOME NOTED TUNNELS, AND HOW THEY WERE MADE.

Mining Years Ago—Burrowing Beneath a Snow-clad Mountain—The French and the Railway Under the Sea—The Lengths of English Tunnels—The Toil and Danger of Making Them—Under the Severn—Sir Daniel Gooch—On the Look-out for a Late Train—Creeping into the Tunnel—Tough Work in the Peak—Making the Totley Tunnel—Exploring the Underground Way—Trudging Beneath the Moorland—A Stormy November Day—A Jubilant Journey through Woodhead Tunnel—The Box, Shugborough, and other Tunnels—The Thames Tunnel.

ENGLISH industry has always tended towards burrowing in the earth. It is natural for us to dive underground in search of mineral wealth; and in the far-back time they delved in Cornwall for tin, in Somerset for lead, and in the north for iron. Coal was worked near Newcastle-on-Tyne in 1239, though three centuries later London housewives had not become accustomed to its use, memorialising the Crown against it, saying that "it flew abroad, fouling the clothes that are a-drying on the hedges." There is ample evidence of the daring of the early lead miners in the Peak of Derbyshire, and of their rough-and-ready justice: the punishment for the thief caught stealing lead for the third time being that he

> Shall have a knife stuck through his hand to the haft
> Into the stow,* and there till death shall stand,
> Or loose himself by cutting loose his hand.

In the High Peak, which seems now to be the latest

* A small windlass, also several pieces of wood placed together to indicate possession of the mine.

prospecting ground of railway engineers, the country is honeycombed by lead mining; and at Castleton, one of the quaintest and most delightful villages in the Midlands, there is a proof in the Speedwell Mine of the lead-getter's temerity. Years ago, it is believed in the middle of the last century, he drove a passage underground, through the rock, for more than a thousand yards beneath hill and crag, finding a great cavern, a subterranean canal, and a deep abyss down which a torrent roared. No fewer than 40,000 tons of rock dug out of the tunnel was flung into the chasm; but this mass of stone, if it reached the bed of the gulf, made no impression, and the place to this day is known as "The Bottomless Pit."

Railway tunnelling, compared to the hazardous work of the lead-miner or the pitman, does not seem perilous, still it is not free from danger, as has been incidentally shown in an earlier chapter. There have been many lives lost and many narrow escapes from death in tunnel-making, chiefly owing to sudden falls of roof and startling inrushes of water. Notwithstanding the peril, however, the work goes on. The trade, social, and recreative needs of the nation demand increased facilities of communication, and the navvy's pick and the driller's form are seen in what half a century ago would have been considered most inaccessible places. Engineers are prepared to tunnel anywhere, beneath houses and churches, under canals, rivers, and seas, and to dive through the loftiest mountains. The St. Gothard tunnel is a remarkable example of their skill and

persistence. The line, which links together the railway system ending at Lucerne with that which runs to the Italian Lakes from Milan, is four thousand feet above the sea level, and traverses, by steep gradient and sharp curve, rugged pass and chasm, where in winter the snow falls thickly and drifts fiercely, and the avalanche, liberated from the lofty breast of the mountain, crashes, making strange noises in its fall, into the deep valley. In certain parts of the line there are sheltering galleries to protect the track from the storm's rage; but the tunnel is the most effective shelter, for it is nine miles and a-quarter in length, and dives through the heart of the mountain range. The Mont Cenis tunnel, opened in 1871, though considered a railway marvel at the time, did not cause so much comment as the St. Gothard, completed later, for the great tunnel that opens its mouth in response to the humble excavator's toil at Göschenen had both political and commercial significance.

Neither of these tunnels, both important in their way, has created the hubbub that has been aroused by the bolder scheme originated by Sir Edward Watkin—the tunnelling of the English Channel, to which we have already had occasion to refer. So determined has been the opposition to the project that it would seem we are rapidly losing faith in the old maxim that "One Englishman is equal to ten Frenchmen." There appears to be a very decided fear, wholesome or unwholesome, of foreign invasion. Vivid pictures of stealthy surprises have been conjured up—of thousands

of French soldiers marching, in noiseless boots, in the silence of night, through the Channel tunnel, massing on our shore while the sentinels were asleep and the

VIEW SHOWING THE SYSTEM OF TIMBERING IN THE SEVERN TUNNEL.

country shrouded in fog, and then, at the word of command, conquering England. Sir Edward Watkin points out that the making of the tunnel has been sanctioned by a Tory Government, under Lord Derby,

and by a Liberal Government, under Mr. Gladstone; but, though he maintains that there is little danger of the tunnel being seized by a foreign foe, and shows how beneficial the railway under the sea would be, not only to trade, but in the provision of a second line of supply, military men look askance at his submarine way to France.

The following are the chief tunnels with a length of over 1,000 yards:—

		Yards.
Severn	Great Western	7,664
Totley	Midland	6,226
Stanedge	North-Western	5,342
Woodhead	Manchester, Sheffield and Lincolnshire ...	5,297
Cowburn	Midland	3,727
Bramhope	North-Eastern	3,745
Medway	South-Eastern	3,740
Festiniog	North-Western	3,726
Sevenoaks	South-Eastern	3,600
Morley	North-Western	3,350
Box	Great Western	3,227
Littleborough ...	Lancashire and Yorkshire ...	2,869
Sapperton	Great Western	2,800
Polehill	South-Eastern	2,759
Mersey	Mersey	2,700
Bleamoor	Midland	2,600
Queensbury ...	Great Northern ...	2,502
Kilsby	North-Western	2,423
Dove Holes ...	Midland	2,420
Shepherd's Well ...	Chatham and Dover ...	2,376
Oxted	Brighton and South-East Junction ...	2,266
Wapping (Liverpool)	North-Western	2,250
Clayton	Brighton and South Coast ...	2,200

		Yards.
Sydenham	Chatham and Dover ...	2,190
Drewton	Hull and Barnsley ...	2,116
Dronfield	Midland	2,024
Lough	Lancashire and Yorkshire ...	2,018
Abbot's Cliff ...	South-Eastern	2,000
Honiton	South-Western	1,881
Merstham	Brighton and South Coast ...	1,830
Clay Cross	Midland	1,826
Milford	South-Western	1,813
Belsize	Midland	1,800
Harecastle	North Stafford	1,763

The Severn Tunnel, the greatest of the late Sir John Hawkshaw's engineering feats, is the longest tunnel in England. Its total length is 7,664 yards, or $4\frac{1}{4}$ miles, and for $2\frac{1}{4}$ miles of this distance the tunnel dives beneath the river. The first stroke of the pick was made in it in March, 1873, and the tunnel took fourteen years to excavate and build. The work was not only laborious, but perilous, and the men had occasionally to run for their lives, owing to the inrush of water. There were, indeed, many exciting scenes in the tunnel way; and this underwater and underground road, dug, driven, and blasted through the hard rock and new red sandstone with the help of the electric light, is associated with the daring and self-sacrifice of many a rough toiler. In 1879, when five shafts had been sunk and three miles bored, a land spring on the Welsh side of the river suddenly flooded the workings; and the same spring burst in again in 1883, surging into the tunnel at the rate of 27,000

gallons per minute. But the water was pumped out, and the spring practically built up; while outside, in order to protect the tunnel approaches, which are dug in low-lying marsh lands, great sea banks were placed to keep back the high tides.

In January, 1886, the first mineral train, loaded with steam coal, ran through the tunnel in nineteen minutes on its way from Aberdare to Southampton; and in December of the same year the tunnel, thoroughly finished at a cost of over two millions sterling, was opened for passenger traffic, rendering obsolete the cumbersome method of transit, that had obtained so many years, of shifting travellers and merchandise from train to steam ferry, saving no less than one hour and a half in the journey between Bristol and Cardiff, giving a gratifying and well-deserved impetus to the Great Western traffic, and not only developing trade on the Gloucestershire and Monmouthshire banks of the estuary, but having a commercial influence in town and in some of the northern cities.

The great work was carried out under the chairmanship, and with the staunch encouragement, of Sir Daniel Gooch, who prided himself on two things in his long and useful life—that he could look back on fifty years' worthy service with the Great Western Railway Company, and that, with the aid of the *Great Eastern*, the leviathian steamship, now broken up and almost forgotten, he laid the first effective cable across the Atlantic. His diaries are full of interesting reminiscences of his railway career, and no one can peruse

them without coming to the conclusion that this sturdy Englishman was an engineer of repute, a shrewd railway administrator, and a man of sterling integrity. He believed in action rather than in words, and maintained that silence was golden, even in Parliament, candidly confessing that during the twenty years he was the representative for Swindon, he had not taken part in any of the debates, and asserting that it would be an enormous advantage to business if a greater number of people followed his example. Early railway travelling, according to his description, had a flavour of daring and romance about it. "When I look back upon that time," he wrote, "it is a marvel to me that we escaped serious accidents. It was no uncommon thing to take an engine out on the line to look for a late train that was expected, and many times have I seen the train coming, and reversed the engine, and ran back out of its way as quickly as I could."

The secret of Sir Daniel Gooch's success in life was the steadfastness and thoroughness of his work. He thought everything was worth doing well, and if he did not actually do it himself, he took care that others did not shirk it. He kept a sharp eye on the progress of every undertaking, and made many visits to the Severn Tunnel. One of the latest of these, on October 27th, 1884, he records, saying:

"I went this morning to the Severn Tunnel. Lord Bessborough met me there, and we inspected the surface work, and after lunch went below. It fortunately happened that the headings were just meeting, and, by the time we had finished lunch, the men had got a

small hole through, making the tunnel open throughout. I was the first to creep through, and Lord Bessborough followed me. It was a very difficult piece of navigation, but by a little pulling in front and pushing behind we managed it, and the men gave us some hearty cheers. I am glad I was the first to go through, as I have taken great interest in this great work, which is now getting fast towards completion."

Next to the great Severn Tunnel, the Totley Tunnel, on the new line of the Midland, from Sheffield to Manchester, is one of the most important in English railway enterprise. It has been dug under nearly four miles of bluff moorland that rises 1,300 feet above the sea-level; persevered with in the face of extraordinary difficulty, for the contractors, though willing to pay high wages, did not find it easy to get workers, even old hands at tunnel-making shying at toil in this deep underground way, in which there has been continual bother with inrushes of water, and into which, as the tunnel slowly made its way into the heart of the moorland, fresh air had to be pumped by machinery, the depth from the surface being too great for shafting.

I heard so much about the hazard of constructing the tunnel and of the exciting incidents met with by the men, that I determined to explore the subterranean road myself, and through the kindness of the general manager of the Midland, and of Messrs. Parry, the engineers, was enabled to penetrate to the heading from the Totley end. What I saw is indicated in the following sketch, written for the *Manchester Guardian*:—

"'I shall be glad,' wrote Mr. Parry to those in

charge of the new line, 'if you will allow the bearer to go through the tunnel, and ride upon the engines. He, of course, takes upon himself all liability for accidents.' With this suggestive note of introduction I reach Dore Station, on the Midland Railway, and am cordially welcomed by Mr. Percy Rickard, the resident engineer.

"'You have chosen a wild day to go over the new line,' he says sympathetically, as he clutches the rim of his hat with one hand and wipes the rain off his face with a handkerchief in the other.

"It certainly is a wild day. The rain does not come down in torrents. It is driven against you horizontally by the fierce gusts of wind that sweep across the country from the moors, so you soon have a wet-through, bedraggled look. The riot of wind and rain is such that even Ariel might find it difficult to direct the storm. But we are well equipped to brave the weather, with thick watertight boots, leggings, and mackintoshes, and soon strike the Dore end of the new railway that is to give a more direct Midland route from Sheffield to Manchester, striding resolutely westward along the track, through pools and over slippery sleepers, by the screen bank that hides Abbeydale Park from the line, by the upper length of the river Sheaf, and on to Totley Rise. The Totley Tunnel, which is the most important work on the new line, opens its mouth in a deep cutting just below the Rise. The bank is very high at the entrance to the underground

way, and has yielded so much owing to the rain that men are busy planking it up. On the line there is the shriek of engine, the rattle and jolt of waggons, and the shouts of workers.

"'Is he going in, sir?' asks one of the officials.

"'Oh, yes,' replies the engineer, in a brisk, encouraging tone; 'he's come many miles to go through the tunnel.'

"'I'll get the lamps, then,' says the man, moving away; and a grimy Hercules, sludged to the thighs, and with his face clay-splashed like an American Indian's, advises me in a whisper that reminds me of the voice of the oboe, to 'tak' that fancy thing off,' meaning my waterproof. I am, with considerate kindness, provided with another overcoat, thick and stiff as buckram, and with a railway lamp in my hand am speedily slipping, sliding, jumping, stumbling, splashing along the rude road into the darkness.

"The way is not unlike the main road from the bottom of the shaft to the far workings in a coal-pit. Here it is bricked; there it is propped with great timbers. Now we are in the deepest gloom; then, through a thick, almost choking vapour that makes your lamplight feeble, we can just discern the shadowy forms of men who look like gigantic phantoms fighting as they strike, not at each other, but at the rock. One is startled by a hoarse cry that sounds something like 'Howd up!' and dragged into a refuge-hole, dug, like a watchman's box, in the tunnel side, while a train of laden waggons clatters

by to the tunnel mouth. The last flicker of daylight from the fourth shaft, on the fringe of the moorland, has been passed, and we are in the depths of the tunnel. The shafts are all within three-quarters of a mile of the Totley end; and though air is continuously pumped into the subterranean road, the atmosphere as we get further away from the last shaft becomes dense and oppressive. The brick-lined arched part of the tunnel is now behind us. There the way is 27ft. wide and 22ft. 6in. in height. Here it is at present narrow, rough-hewn, and low-roofed. The road, only just wide enough to enable the waggons to come down, is being dug and cut through the coal measures. The black shale is easy to deal with; but the intersecting rock requires more patient working. Watching the drillers and strikers at their toil, one is inclined to think that to delve 3½ miles of track beneath the moorland from Totley Rise to the Derwent Valley is almost a hopeless task. Yet considerable progress has been made with the work. There is still a mile of heading to pierce; but men are driving from both ends of the tunnel, and are looking forward with pleasure to shaking hands with each other in the underground junction.

"A useful friend in tunnel-making is found in gelignite, an explosive, which blasts away the most obstinate bulk of rock with scant ceremony; but the men have an annoying enemy in water. In the earlier lengths of the tunnel they were much embarrassed

by it. Every man seemed to be possessed of the miraculous power of Moses. Whenever he struck a rock water sprang out of it. The rills and brooklets playing hide-and-seek on the rugged land high above the railway level leaped downward and bubbled and splashed into the tunnel. Water dripped from the roof and flowed from the rock and sprang from the tunnel floor. The flow became so constant that the men had to work in mackintosh suits, and looked like divers wading through deep pools and torrents. At the faults particularly the inrush of water was considerable—at one time not less than 1,200 gallons per minute. The men were never in danger; but the flow was too great for their liking, and for the reasonable progress of the undertaking. A head wall of bricks and cement, 4ft. 6in. in thickness, was at last run up not far from the fourth shaft to keep the water back. Behind this wall the water rose and dashed ominously; but the gangs in the meantime made a drain in the tunnel bed, and ultimately through this drain and along the culvert by the railway side the flood-water was carried into the river Sheaf. The water in the Totley length has been successfully coped with by the diversion of the underground stream that now flows beneath the line; but the irruption in the Padley heading was recently gauged at 5,000 gallons per minute. The flow was so great that the men had to go to work on a raft. Then the water rose so high that they could not get in at all without fighting a

subterranean flood that almost rivalled the underground torrent Jules Verne evolved from his fancy.

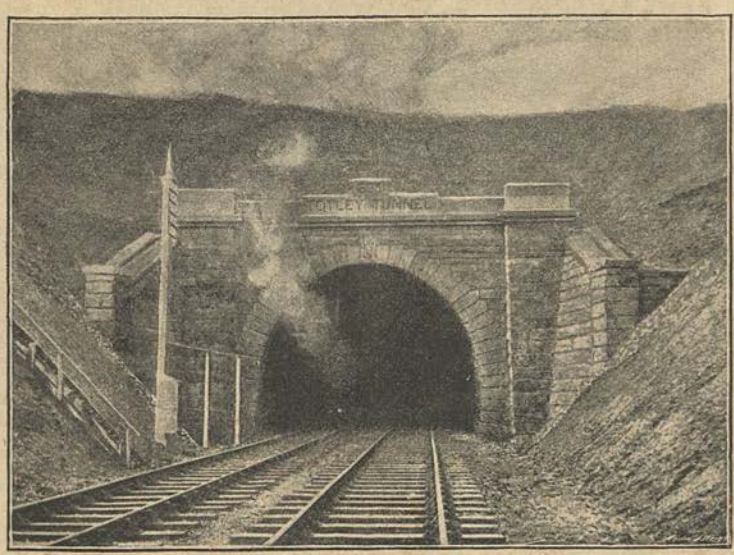
"I learn all this piecemeal and haphazard as I stumble along in the uncertain lamplight at the heels of my friend. Now we pause to watch the men—by the light of candles stuck in their caps or in the interstices of the rock—toiling and drilling, or penetrating by means of ladders into the breakups; then we climb over waggons that obstruct our progress. By-and-by we reach the heading, the most distant point excavated from the Totley end. The rock and shale is as dry as tinder. There is not a drop of water here. The air is hot and heavy. Perspiration bursts from every pore and trickles in fantastic courses down your face. The men, great muscular fellows, perspire too; but they pick and dig on. The shale is steadily shovelled down to the waggons. At the face a sturdy tunnel-hewer inserts his pick in a crevice and brings down a great mass of rock that threatens to crush him as it gives way and thuds on the floor; but he leaps aside, reels, and comes on his back on the shale heap, causing some diversion. From the soles of his boots, your eyes, with scarcely perceptible effort, have roamed to the tunnel roof. It is altogether a surprising roof—a huge flat, smooth-faced slab of shale, many yards in length, that completely covers in the tunnel-way; a vast natural roof that may not be a curiosity in geology, but is certainly rare enough in tunnel-making. Since I emerged from the tunnel by the deep shaft, bathed

in perspiration and splashed with mire, the measurement of the natural roof has been taken. It stretches 121 yards along its first length, then after a break continues for another ten yards, and beyond a further break it has been worked for an additional forty-five yards, without its edge being reached."

My experience of tunnel-making was, as it happened, obtained on an extraordinary day. There were comparatively few men in the workings. In the places furthest from the shafts one felt a weight on the chest, and gasped for breath. The oppressiveness of the atmosphere was almost disquieting, and it did not seem surprising that tunnel-makers were difficult to get, if they were required to work under such conditions. Some days after I had returned again to the bustle and whirl of city life, and the deep shafts and the tunnelled way, and the gloom of the underground workings had become scarcely more than a picture in the brain, I received a letter from the resident engineer on the Totley Tunnel length that revived my interest in the subterranean work, for it said: "Your experience of railway tunnel works here was made during a remarkable depression of the barometer. I wondered, as we went along, how it was there were so many empty working-places; and I afterwards ascertained that a large proportion of the workmen were laid up, owing to the bad air, and that this exceptional occurrence accounted for the small number of drillers at work when we were going through."

The weather on that day—November 11th, 1891—

was certainly a meteorological curiosity. The gale rioted through the land. Buildings were blown to the ground, trees uprooted, and houses flooded, for the rain fell in torrents for hours, and rivers spread far beyond their banks. It was a trying day for the engine-driver, who had to face the fierce wind and the rain that struck



THE TOTLEY TUNNEL.

him as sharply as though every drop was a needle-point. With his engine windows all blurred with rain and sleet, he had to keep a sharp look-out uncovered, and now and then narrowly escaped being blown off his footplate. A singular and alarming incident occurred near Leatherhead Station. While a passenger train was running from Horsham to London a tree was blown across the railway track. The engine and driver got clear of it.

The tree just missed the locomotive, but it caught the carriages, crashing against the panelling, breaking the windows, and tearing off the handle bars, to the fear and consternation of the passengers, not one of whom, however, was hurt. The fall in the barometer was exceptional. The reading at noon was 28·456 inches, and the depression had been exceeded only five times in thirty-four years; so there was some excuse for the tunnel-hewers at Totley, working a mile underground, breaking away from their toil with drill and hammer and pick in the stifling air.

The men working the Totley Tunnel met on October 19th, 1892, and, breaking through the heading with strong blows and loud shouts, shook hands. Five days afterwards the first gang, headed by the engineer, went through; and the tunnel, which took more than four years to delve, and which has been hewn with dogged perseverance and skill through difficult strata without a shaft to startle the grouse, or offend the Duke of Rutland's love of the picturesque, gave a clear track from end to end. Now it is practically finished, and the new line between Sheffield and Manchester, opening up some of the most delightful scenery of the Peak, giving access to the Vale of the Derwent, and the beauty of the Woodlands, will be ready for passenger traffic in the coming spring.

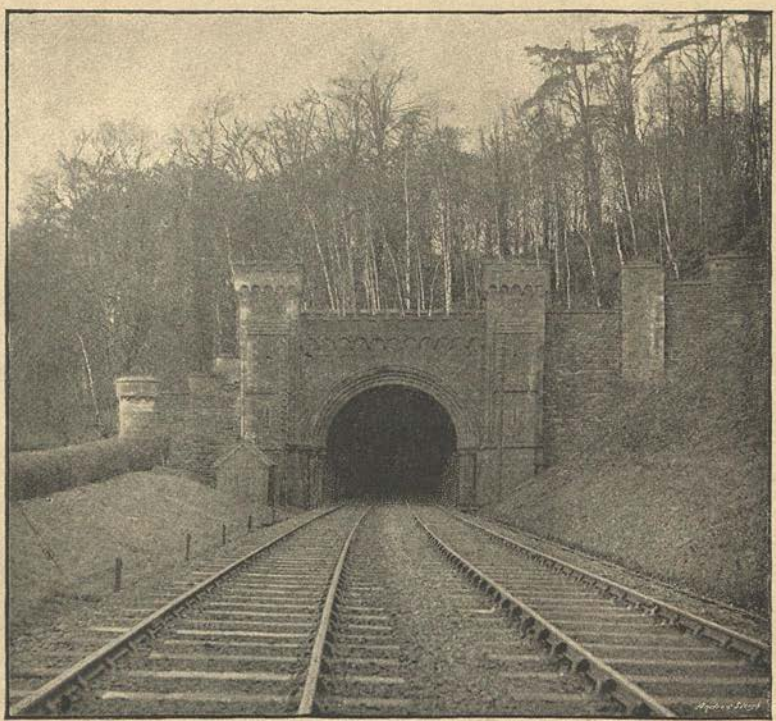
The tunnel under Cowburn, at the north-west end of the line, did not hamper the excavators like the Dore and Chinley underground way. It is nearly $2\frac{1}{2}$ miles long, and though the tunnel passes beneath a part of

the Peak watershed, it is almost as dry as tinder. There has practically been no inrush of water; but the rock was driven through with difficulty, and a vast amount of work was done with drill, explosive, pick, and trowel before the tunnel could be opened out from end to end. One wonders how the contractors would have fared if they had been commanded to make two such tunnels in Egypt in Pharaoh's time. The outcry for straw would have been much louder than that from the Israelites, for the Totley Tunnel required the enormous number of 30,000,000 bricks to line it, and Cowburn no fewer than 20,000,000, in addition to its walling of stone.

Woodhead Tunnel, on the Manchester, Sheffield and Lincolnshire Railway, is one of the best known engineering works in England. It runs through a wild track on the Yorkshire and Derbyshire border, is more than three miles long, and took six years to build. No fewer than 1,500 men were employed in making it, 157 tons of gunpowder were used in blasting, and the fallen rock had to be lifted 600 feet to the shaft mouth. There are two things that strike the traveller as he goes through it. One is the strength of its odour, which can hardly be eclipsed on the Metropolitan Railway, and the other is the tardiness of the company in attempting some modern method of ventilation. Why, for instance, could not a trial be made with the Guibal fan, which has proved so effective in the ventilation of the Mersey Tunnel.

A journey through Woodhead Tunnel is instructive

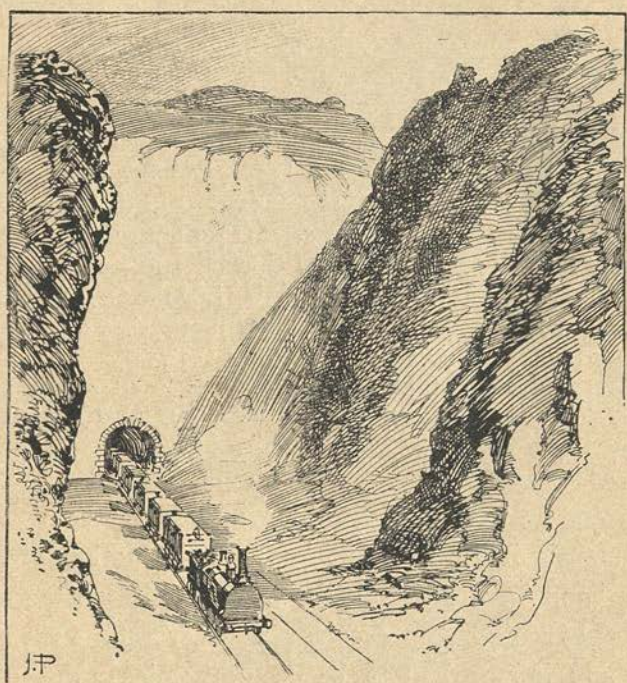
in many ways, and particularly for rapid variations of the English climate. You may run from Hadfield in a blaze of sunshine, congratulating yourself that summer has really come at last, hear the passengers laconically



SHUGBOROUGH TUNNEL, NORTH END.

ejaculating "Woodhead," watch them banging the windows up, closing the ventilators, and some of the fastidious putting handkerchiefs to their mouths, catch a glimpse of a grim stone archway and a mass of clinging smoke, cough, gasp, or patiently bear your

ride through the tunnel, and emerge from it in a blinding snowstorm or a torrent of rain, swept fiercely by the icy wind across the desolate valley, to beat against the breasts of the sombre hills. The weather



THE FIRST FOLKESTONE TRAIN EMERGING FROM THE BLETCHINGLEY TUNNEL IN 1843.

between Woodhead and Penistone is full of character, chiefly bitterly cold and boisterously windy; and a few years back a storm rioted there so persistently that several trains were snowed up, and many passengers spent the night, half frozen, in the carriages on the line, instead of lying snugly in bed. These belated travellers

were not so merry as the venturesome persons who made an experimental journey through the tunnel on December 22, 1845, when, according to the pamphlet on "Manchester Railways,"—

"A train of about twenty carriages left the Sheffield Station at ten o'clock in the morning drawn by two new engines, accompanied by the chairman, Mr. J. Parker, M.P. for Sheffield, the other directors, and their friends. Precisely at five minutes past ten the train was put in motion, and got under rapid way. The weather was extremely unpropitious, in consequence of a tremendous fall of snow. The train reached Dunford Bridge in three-quarters of an hour, where it remained twenty minutes for water. It then proceeded through the tunnel at a steady pace. It was $10\frac{3}{4}$ minutes passing through this great subterranean bore; and on emerging into the 'regions of light' at Woodhead, the passengers gave three hearty cheers, making the mountains ring. It speedily passed over the wonderful viaduct at Dinting,* and arrived at Manchester at a quarter past twelve o'clock, the band playing 'See the Conquering Hero Comes!'"

The making of the Box Tunnel, on the Great Western, between Chippenham and Bath, though not so romantic in its incident as the construction of some other tunnels, was a difficult task, for the water gushed so freely through the crevices in the freestone rock that men and horses had to be brought quickly out of the underground way, and it was found imperative to suspend work in one section of the tunnel till adequate machinery to cope with the great inflow of water had been put down. No fewer than 30,000,000 bricks were used to line this tunnel, and a ton of gunpowder was used every week in blasting.

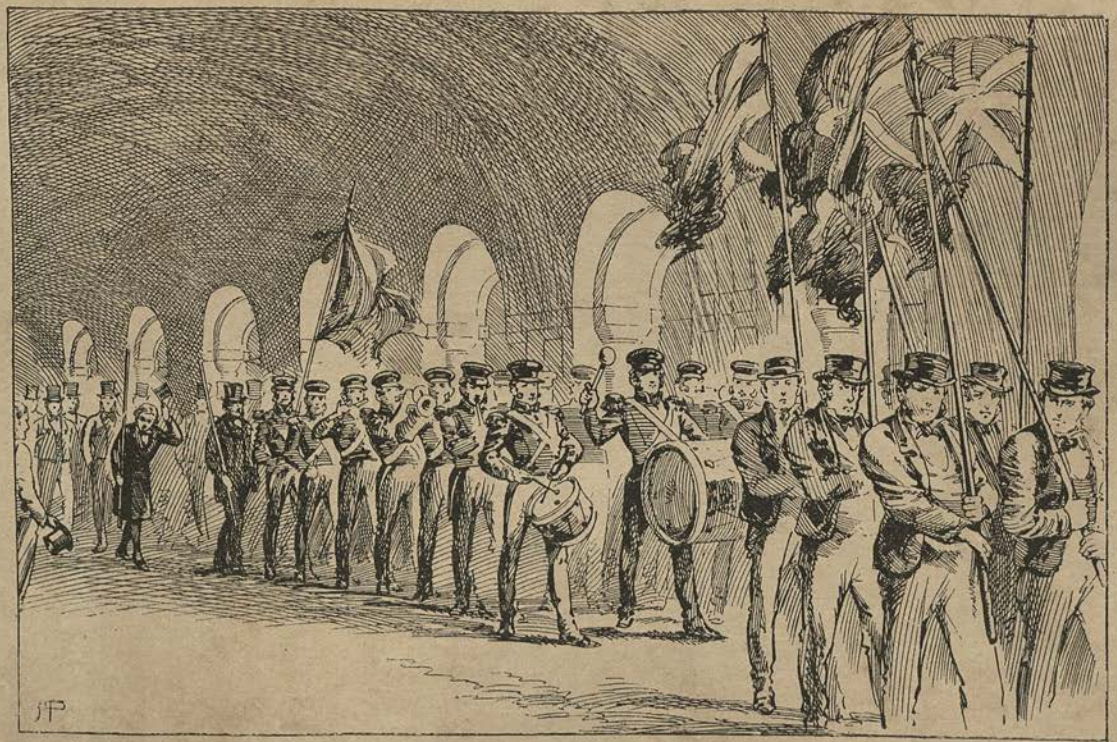
* A viaduct with seven stone and five timber arches, the latter being 120 feet high, and 125 feet span.

THE HIGH TOR TUNNEL, MATLOCK BATH.

(From a Photo by Valentine and Sons, Dundee.)

Nor was the construction of the tunnel through Shakespeare's Cliff, on the South-Eastern Railway, devoid of peril. The workers did not meet with such a mishap as the ten men buried in the Watford Tunnel by a huge slip of chalk and gravel, but they were now and then in considerable danger from falls both in the vertical shafts and horizontal galleries. The tunnel is most picturesquely placed. It has not such a stately entrance as Shugborough Tunnel, with its towers and parapet; it does not look out on a scene of sylvan beauty like the High Tor Tunnel, Matlock Bath; it does not struggle out of the depths of a desolate land like the Blea Moor Tunnel; it does not nestle beside a fir-clad mountain like the tunnel at Spruce Creek, on the Pennsylvanian Railway; or peep out on rugged path, and rushing stream, and great shoulders of mountains, some snow-capped, like St. Gothard Tunnel; but it dives beneath the cliffs, and travellers, just before they are whisked through its portals, get a fine picture of massed rock and tumbling surf.

There are practically two tunnels running parallel with the sea, and to facilitate the making of these underground ways, a road was dug along the breast of the cliff; and the tunnels were made by means not only of vertical shafts, but of horizontal galleries, the material dug out being taken along the level roads and tipped into the water. Sightseers were admitted during the progress of the work, and much surprise was expressed at the ingenuity of construction; and some of



OPENING OF THE THAMES TUNNEL IN 1813.

the labyrinths, into which only a mystic light penetrated from the lofty shafts, looked very weird and uncanny. The curious had an opportunity of seeing a strange sight during the making of this line. The course of the track was impeded by a gigantic rock, three hundred feet in height and seventy feet thick, known as the "Round Down Cliff," which it was inexpedient to tunnel and too costly to dig away; but 19,000 lbs. of powder, exploded by galvanism, soon moved the huge mass, which collapsed seaward, almost without a sound, and now lies a lichened heap lapped by the waves.

The navvy is busy still on many a new line, notably on the railway from the east to the west coast; but the most difficult piece of work in which modern engineering and toil are striving is the new tunnel under the Thames. The great river, rich in history, tradition, trade, and, some say, in odour, has always had a fascination for the engineer. He does not seem eager to go upon it; but he is always filled with zeal to bridge it or tunnel it. The first attempt to get beneath the waterway was disheartening. When nine hundred feet of the tunnel between Rotherhithe and Wapping had been bored, the engineer met with quicksands, and abandoned his task; but the elder Brunel overcame the difficulty, and in 1843, at a cost of nearly £470,000, the Thames Tunnel was finished.

For many years it was rather an object of curiosity than a financial success, but now the East London line runs through it, and the track has become an important

railway link in London's endless chain of traffic. During the making of the tunnel there was much exciting incident and many a narrow escape. The under-river way suddenly flooded in the autumn of 1837, and an assistant of Brunel's got out only just in

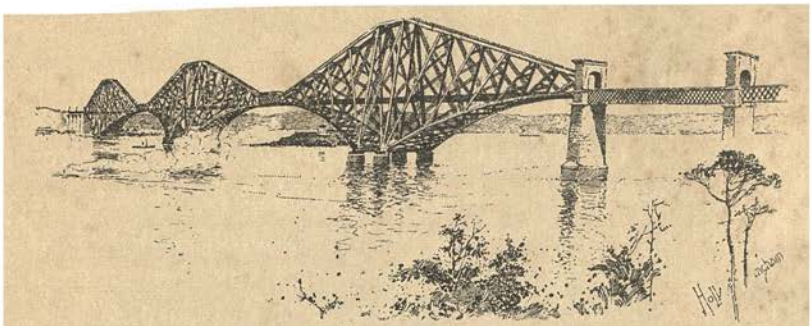
OPENING OF THE THAMES TUNNEL: "THREE CHEERS FOR SIR MARC BRUNEL!"

time. "Seeing a quantity of loose sand falling near the gallery," he wrote in his account of the mishap, "I gave the signal to be hauled into the shaft. I had scarcely done so when I observed the ground give way, and the water descending in a thousand streams, like a cascade."

The engineer has given us many ways across the

Thames, some on bridges of great dignity and beauty; but the latest thoroughfares, through Blackwall Tunnel and along the Tower Bridge, will undoubtedly be the most surprising low-way and high-way of which the river can boast. Of this latest addition to the bridges of the metropolis, however, we must speak in the next chapter.

ENTRANCE TO THE THAMES TUNNEL IN 1843.



THE FORTH BRIDGE.
(Photo: J. Valentine & Sons, Dundee.)

CHAPTER XXXVIII.

VIADUCTS AND BRIDGES.

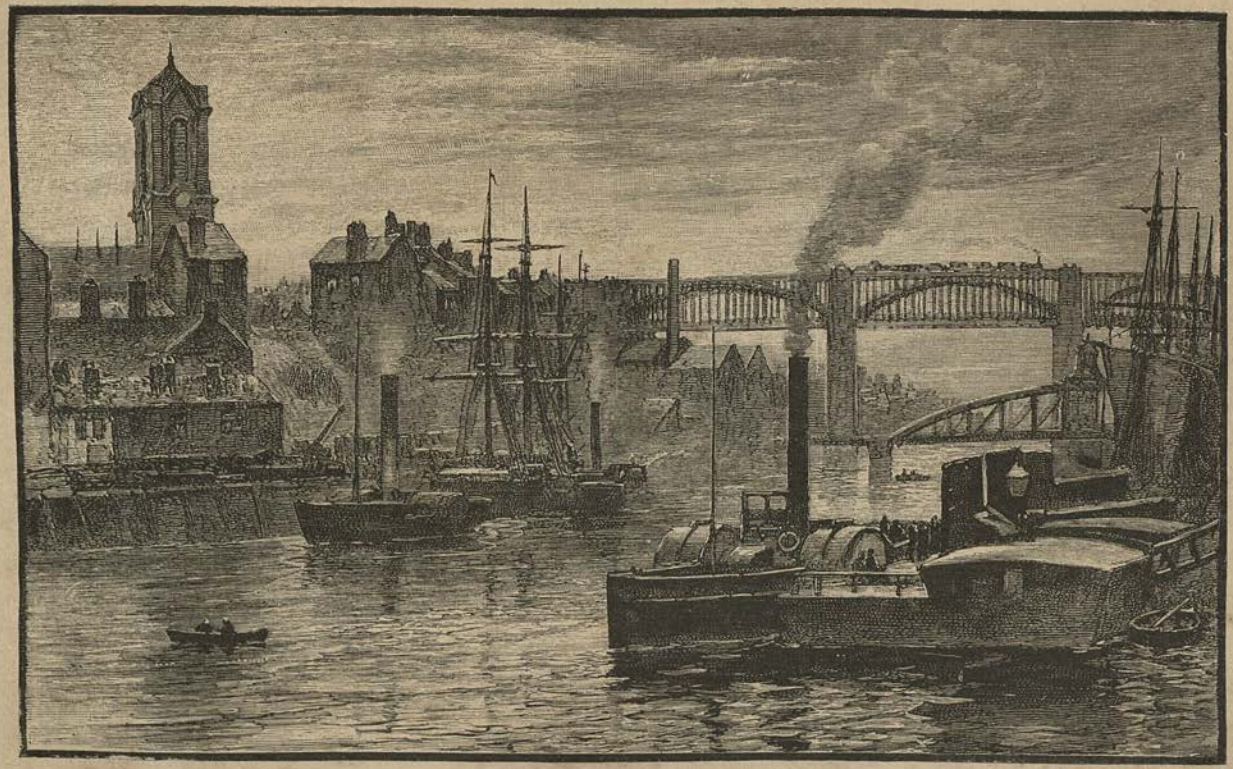
Some Noted Bridges—A Rough Day on the Conway—The Drowning of the Irish Mail—The Square-Box Bridge—In Menai Straits—"The Building of the Bridge"—The Chain Bridge and the Foolhardy Cobbler—Brunel's Famous Cornish Bridge—A Wild Night on the Tay—The Torn Bridge and the Train's Doom—The New Road Across the River—The Great Forth Bridge—Its Shape and Strength—The Opening Ceremony—Crossing in a Storm—A Costly Undertaking and its Trade Value—London and Other Bridges—Happy-go-Lucky Bridge Builders.

THE bridges on English lines are legion. There are bridges in remote moorland that hold ancient rights of way sacred, archways for the access of live stock from field to field, bridges over country lanes, canals, and rivers, bridges over arms of the sea, and across great thoroughfares in crowded cities. Over the Arun, on the South Coast Railway, a telescope bridge (a view of which will be found on p. 488, Vol. I.) moves in and out as the exigencies of railway or shipping traffic require. The New Holland Ferry across the Humber, extending fifteen hundred feet into the

river, and taking the trains down to the boats, is an old-fashioned but striking evidence of difficulty overcome; and the High Level Bridge over the river at Newcastle; the Royal Border Bridge over the Tweed at Berwick; the Runcorn Bridge, with its thirty-three arches, over the Mersey; the Dee, Duddon Sands, and Congleton Viaducts, with dozens of others, are proofs that the railway engineer is not easily daunted, and with a free hand and unlimited means is prepared to span anything.

People taking their holiday at Llandudno, when tired of promenading and music, often go by train to Deganwy and by boat up the river. If you are rowing across the water to the modest landing at Conway, where river current and tide meet, or, worse still, rowing back again to Deganwy in the teeth of the wind, your experience is rough and exciting. Two years ago the author tried it, and was bound to say he would rather round Longships Lighthouse, in what the British sailor whimsically calls half a gale, than row across this river in a storm, for you are sure to be completely drenched with spray, even if you are not flung into the water. The swell and the wind combined have such power that the stern of the boat is lifted high out of the water, and you might imagine a hippopotamus or a whale was gambolling beneath the keel.

The frolicking of water here has been responsible for many a sad accident; and it is recorded in the *Annual Register* that "On Christmas Day, 1806,

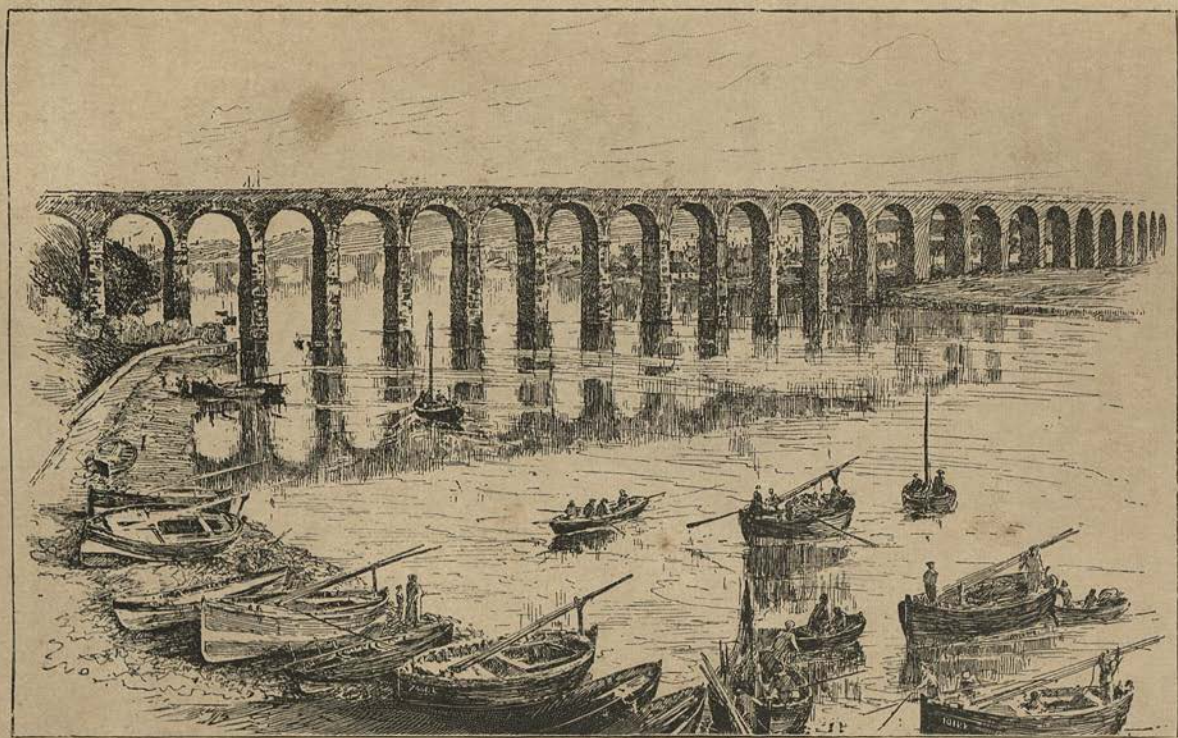


THE HIGH LEVEL BRIDGE, NEWCASTLE-ON-TYNE.

owing to a heavy swell on the river Conway, the boat conveying the Irish Mail, with eight passengers, the coachman, the guard, and a youth, in all fifteen in number, including the boatmen, was upset, and only two persons saved."

It is unnecessary now to ferry travellers across the river. You run by the London and North-Western Railway, along the embankment, through the tubular bridge, and beneath the ivy-clad walls of the lofty ruined castle. The bridge, which is really a square, box-shaped tunnel, made of cast-iron, weighs over one thousand tons. The Chester end of the bridge is free, so that it may expand and contract by heat and cold, while the Conway end is fixed on the pier.

Robert Stephenson had to solve a difficult problem before he stretched the gigantic tubular bridge across Menai Straits. How was he to carry a railway over a turbulent arm of the sea? He settled the question to the satisfaction of himself and thousands of passengers who go through the tunnel every year, in a hurry, with a rattle and a roar, to catch the Dublin boat at Holyhead. Going down the Straits from Beaumaris, on your way to the quaint old town of Carnarvon, by the little steamer *Columbus*, you are not at first impressed with the proportions of the bridge. The ripple of the water about the chocolate-coloured rocks, a yacht lying high and dry on a sandbank, the swift-flowing current in which the helmsman carefully keeps the boat, the richly-wooded slopes, and the



ROYAL BORDER BRIDGE BERWICK-ON-TWEED.

(From a Photograph by G. W. Wilson & Co., Aberdeen.)

picturesque scene beyond the steamer's stern, rather divert your attention from the bridge; or if you look at it, the most prominent thought in your mind is that it lies very low towards the water, and that the boat will surely rake the bridge with her masthead.

But by-and-by the bridge seems to grow higher and higher, and the boat to shrink as fast as Mr. Rider Haggard's heroine "She." Passing beneath the great structure, everything on board becomes dwarfed, and nearly every stranger among the passengers expresses admiration at the massive piers and the great tunnel that rests upon them as it spans the Straits. The bridge, small compared with that colossal work the Forth Bridge, is nevertheless a striking evidence of engineering daring and skill; and it seems a pity, in these days of technical education and science teaching, that the original intention of placing a gigantic figure of Science at the summit of the Britannia tower, or central pier, that rises from the rock in the middle of the Straits, should have been abandoned. Britain's power is represented on the land abutments by two lions couchant; but there is no figure to remind one of the genius that conceived and the toil that fashioned the great structure.

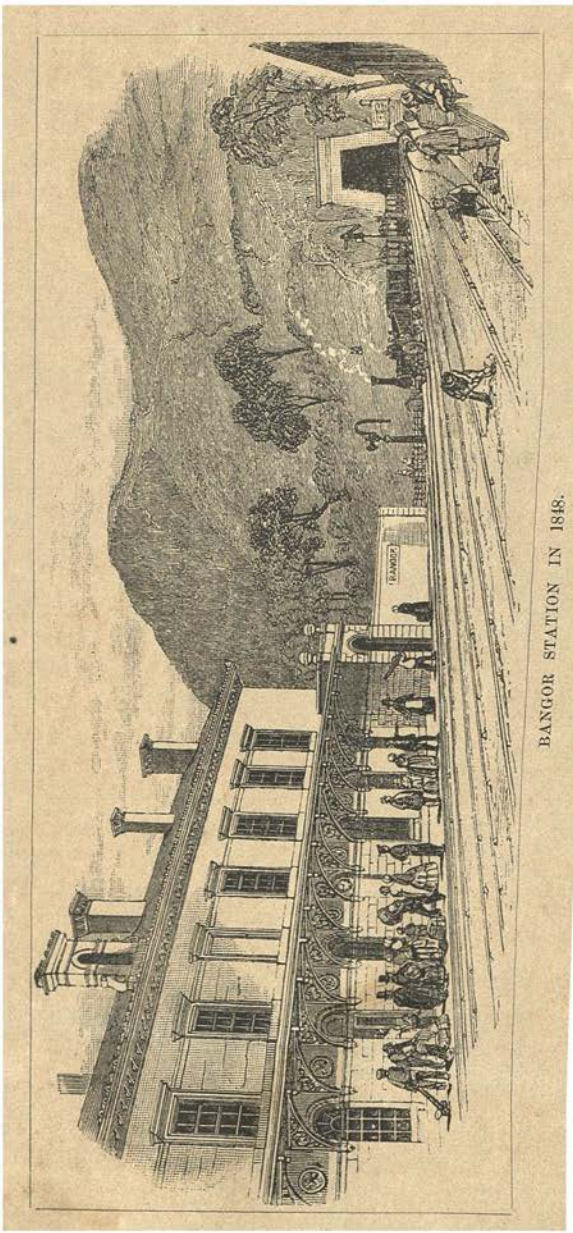
The building of the bridge, like the Building of the Ship in Longfellow's poem, created a great commotion. Workshops clustered by the waterside. There was the clang of labour on the great platform crowded with artisans fitting the boiler plates; the ring of the striker's

hammer in the forge; the echoing ding-dong of the riveter in the great tube; the rumble of lorry and waggon; the noise of unloading timber, iron, and stone brought by water. In the erection of the central tower, which is 230 feet high, no fewer than 150,000 cubic feet of Anglesea marble, 150,000 feet of sandstone, and 400 tons of cast-iron beams and girders were used. By

CONWAY STATION IN 1848.

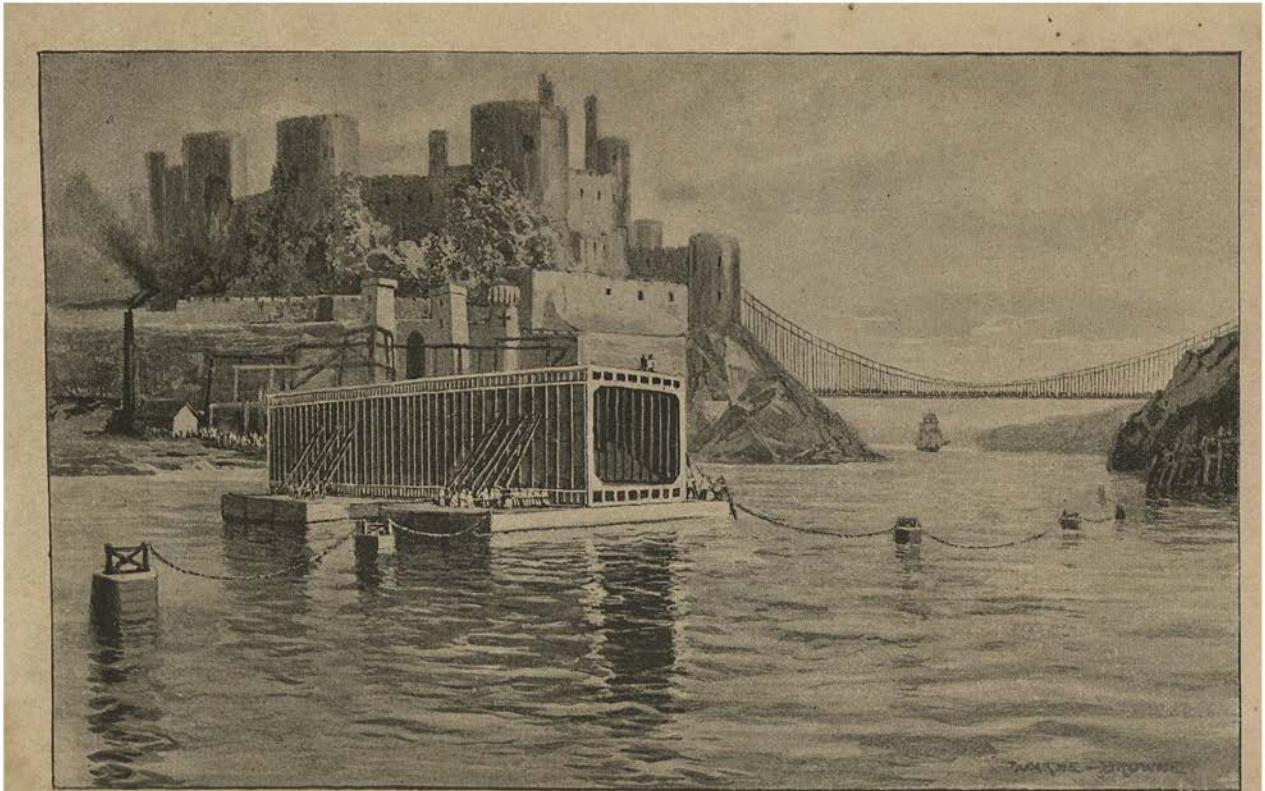
means of powerful tackle, and the help of an army of workmen and sailors, the tube was floated and slung to the foot of the piers, and then adroitly hoisted to the summit by a Bramah press. The bridge, which is 1,841 feet in length, was opened on March 5th, 1850, when three heavy engines, gay with flags, went out of Bangor Station and disappeared within the tube.

The disaster at Tay Bridge had not happened then, and there was no record in English railway



BANGOR STATION IN 1848.

history of a train plunging from a collapsed bridge into the water; but on this morning there were anxious hearts on both shores, though the engineer himself was confident of the security of his work. The bridge bore the strain. The three engines loitered in the middle of each span, and then stood motionless to test the strength of the tube by their dead weight; but the bridge remained quite indifferent, and indulged

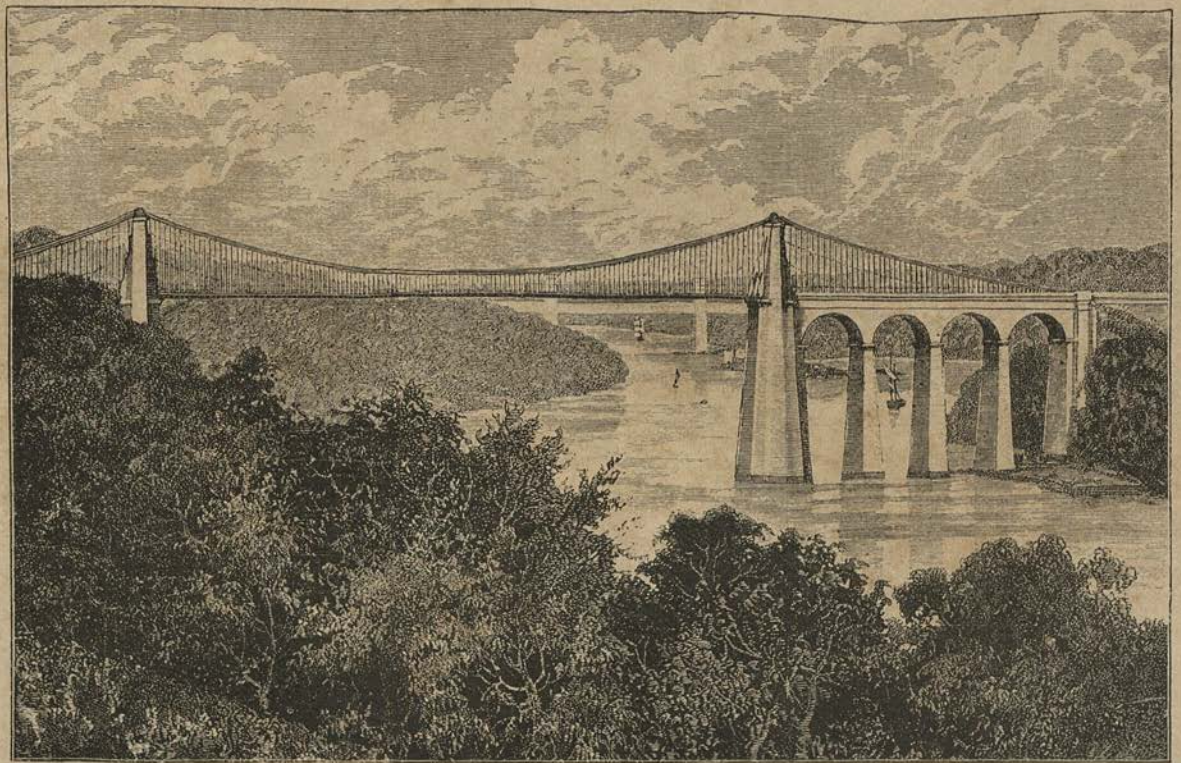


THE CONWAY TUBULAR BRIDGE: FLOATING THE TUBE TO ITS DESTINATION IN 1848.

in no antics, its greatest deflection not transgressing the inelastic ethics of engineering. In fact, it next carried a coal-laden train weighing 300 tons, and a further testing train of three locomotives, waggons containing 200 tons of coal, and carriages containing nearly seven hundred passengers, without flinching; and even the most timid traveller soon came to have faith in the bridge.*

Menai Bridge, swinging its graceful length across the Straits, is within sight. It has no relation to railways, except as a link between the travel of the past and the present; but this great chain bridge, fashioned by Telford to connect the London and Holyhead roads, is a remarkable example of fearless engineering, as the passengers must have thought on January 30th, 1826, when "this stupendous, pre-eminent, and singularly unique structure was opened to the public at thirty-five minutes after one o'clock a.m. by the Royal London and Holyhead mail-coach, conveying the London mail-bag for Dublin." During the construction of the bridge the men engaged upon it occasionally indulged in foolhardy feats. When the first chain, having a suspension of nearly 600 feet, was stretched across the Straits, three workers traversed, or rather swung themselves along it; and later, one of

* The bridge has four spans, and the tube, altogether 1,513 feet in length, rests on three piers—the Carnarvon, the Britannia, and Anglesea Towers. No fewer than 186,000 pieces of iron and 2,000,000 rivets were used in the construction of the tube, which forms an ingenious tunnel, varying from 23 feet to 30 feet in height. The bridge, which was built in less than five years, cost over £600,000.



THE MENAI BRIDGES.

the men, sitting down "quietly on the centre of the curved part of the upper suspension chain, with his feet resting on the one below it," and maintaining his perilous position there for two hours, coolly made a pair of shoes! *

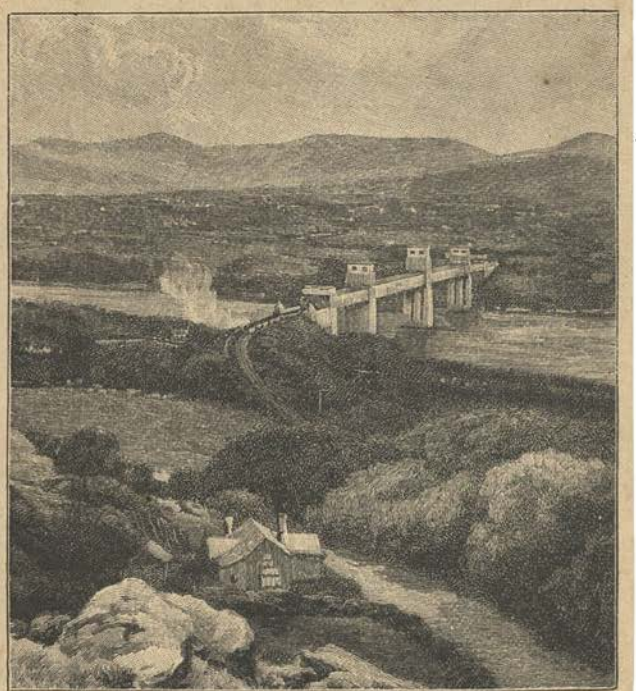
Another notable bridge is that over the Tamar, with its nineteen noble spans and its length of nearly half a mile (2,240 feet). It may well elicit the admiration of the crowds who pass beneath it in taking the delightful trip up the river from Plymouth.

It was on December 28th, 1879, that the country was astounded and thrilled by the news of the Tay Bridge disaster. The structure, which spanned the mouth of the river, had often withstood the fury of storm, though not without vibration and tremble. One of the railway men had made no secret of his fear that the bridge was unstable, and had anxiously watched the train, many a night, start along the slender track over the tumbled waters into the darkness. It seemed to the cautious Scotchman a foolish exploit. He prophesied that the train would go once too often. He saw it start on its last journey. All through this Sabbath day the wind had blown a gale. Off the coast the sea was high, and many a ship had run for shelter. The night closed in wild and dark, chaotic almost in its gloom, except at rare moments, when the storm, impatient of its own sombreness, tore the clouds from the moon's face, and there was a fitful glitter on the

* This bridge, which has a suspension of 579 feet from pier to pier, contains 2,000 tons of chain work, and cost £120,000.

foam-flecked waters. People drew their chairs nearer to the fireside as the wind smacked the house wall and shrieked in the chimney, and the devout prayed for the safety of travellers by land and sea.

When the train, which was running from Edin-

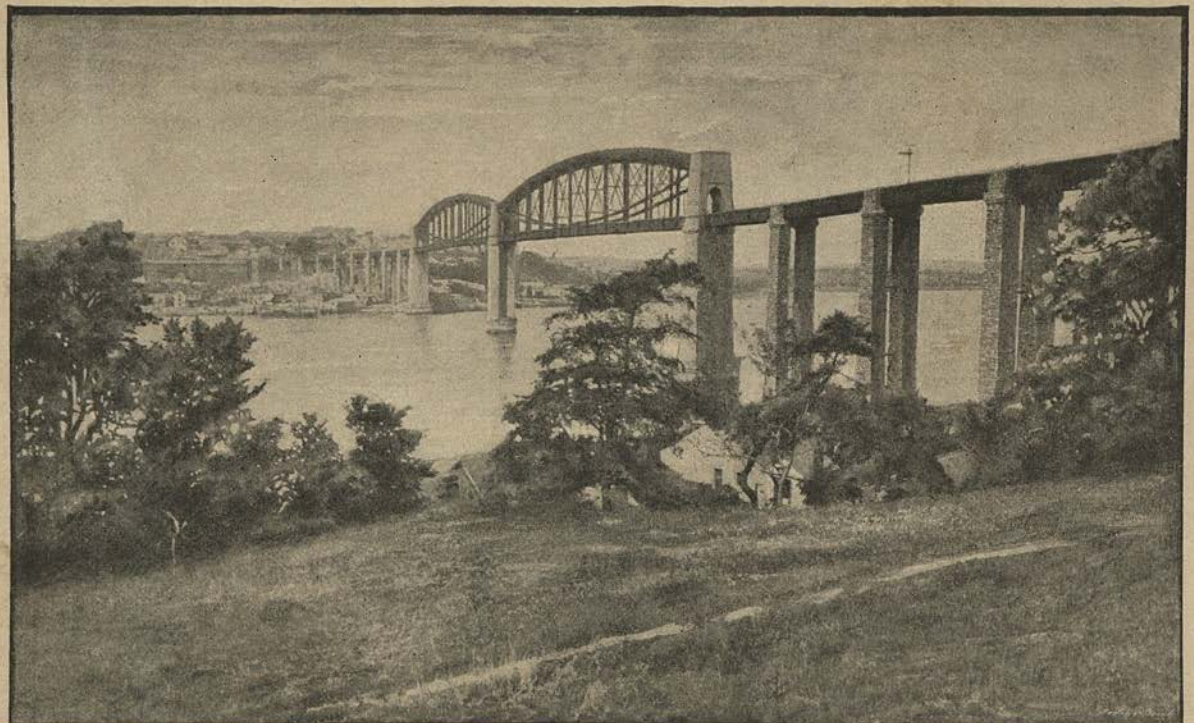


THE TUBULAR BRIDGE, MENAI.
(*From a Photograph by Hudson.*)

burgh to Dundee and carried about seventy passengers, reached St. George, the nearest station to the bridge on the south side, it was a little behind time. The wind blew so fiercely that there was difficulty in

collecting tickets; and Thomas Barclay, the signalman, after giving the permit baton to the fireman, had almost to crawl to his cabin, so tremendous were the gusts. The wind howled about the cabin, threatening to lift it from its base, and Watt, the surfaceman, who was sheltering in it, told Barclay, as he struggled in breathless, that he did not think the bridge would hold up through the night. The two men had a presentiment of coming evil, and they watched the train with suspense as it travelled slowly in the wind's teeth above the storm-tossed river and beneath fantastic cloud-drift along the bridge. It seemed to go cautiously enough. Its tail light gleamed red in the darkness, and then almost golden in the moon's cold light. The train, clattering and swaying with the buffeting of the hurricane, travelled at the rate of three miles an hour, without mishap, till it reached the high girders. The track was level with the girder-tops until the central spans were reached, but in the middle of the river, to make navigation easier, the rails were placed on a level with the bottom of the girders. When the train reached this point, and was making its way through the central spans, the storm suddenly concentrated all its fury on the bridge. On shore it made wayfarers cling to rail and wall and gable for support, and toyed grimly with life and property; along the river it swept with howl, and shriek, and roar, and struck the bridge with savage might, tearing four hundred yards of it away.

What happened at that supreme moment on board the train, "no man knoweth." The passengers



BRIDGE OVER THE TAMAR AT SALTASH.

(From a Photograph by Poulton & Son, Lee, S.E.)

dozing, or reading Christmas story, or chatting, or thinking of home and those they loved, or listening to the storm's anger and wondering whether they would get through, had their career rudely interrupted by fate. The startled look on the engine-driver's face, the guard's instinctive grasp of the brake, the desperate momentary struggle of the passengers to escape their doom, are known only to Heaven. Some say there were piteous voices in the wind's wail; others that they heard a voice as of thunder, and saw a flash of sparks as the iron fractured and the girders fell asunder. Whether the train was flung off the rails by the hurricane and broke through the girders, or the bridge was blown down by the gale and the train hurled into the gap, has never been conclusively ascertained. Meteorological investigation and railway science lean towards the latter theory. Anyhow, the ill-fated train, the rails, and the girders plunged, a tangled mass, into the black foam-crested waters of the Tay. There was, no doubt, many a piteous shriek and half-stifled cry; the headlong descent of the locomotive, seething with fire and steam; the crash of breaking carriages; the ring and clang of iron; a great splash and bubble as the train disappeared beneath the river's surface; and then the grim silence of death. Not a soul escaped!

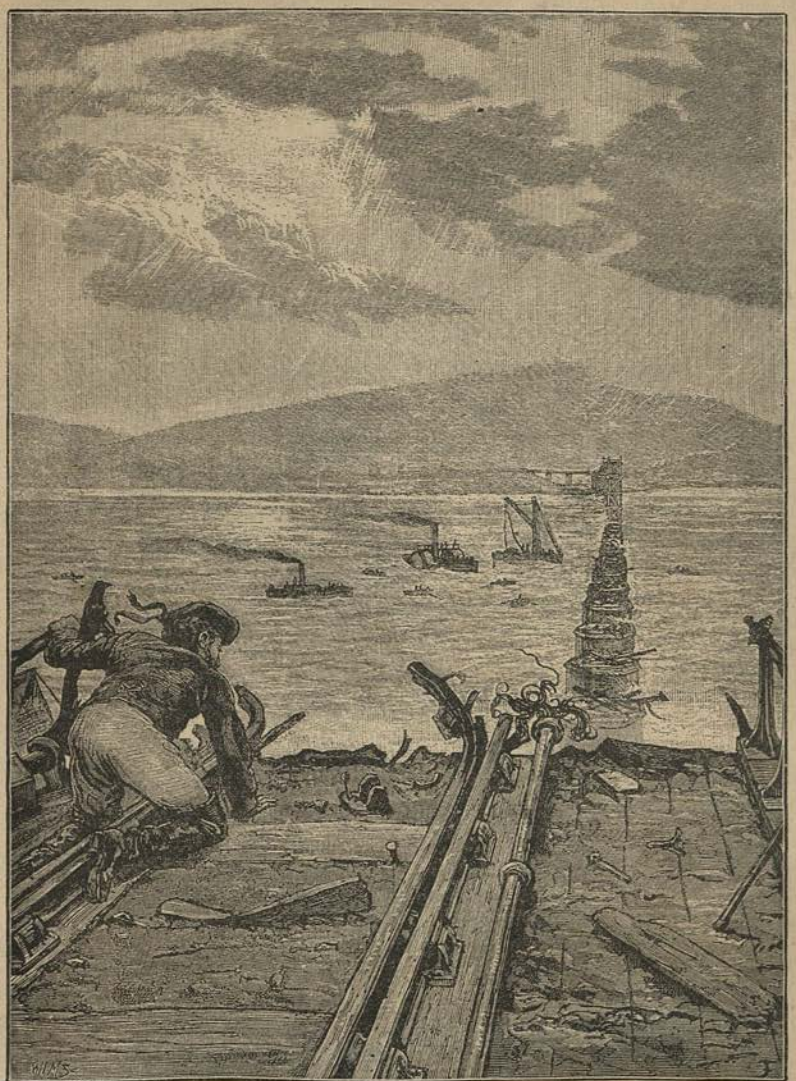
Before most people had recovered from the shock of the calamity, skilful and daring efforts were made to get at the wreckage. By hard work, patience, and courage many bodies were recovered; but that of David

Mitchell, the driver, was found nowhere near the train—it had been drifted by ebb and flow of water four miles below the bridge. Some bodies were never discovered, and the accident gave one or two unscrupulous men the opportunity of effacing themselves. It was given out that they had gone down in the Tay Bridge disaster, whereas they had disappeared in another fashion altogether. One embezzled the money of his firm, and roamed in a foreign land. Another tired of his wife, and did not, like the great Napoleon, trouble to get a divorce. These men did not fall into the waters of the Tay. They broke through the girders of honesty and virtue, and fell into the abyss of fraud and licentiousness. Meantime a searching inquiry was made into the disaster, and it was found that the bridge had been badly designed, constructed, and maintained—that, practically, it had never been secure.

Sentiment is soon hustled out of hard work and business; and, though the shadow of the Tay Bridge disaster darkened many a home, trade could not stand idly by while people grieved, and the rebuilding of the bridge was not only speedily projected, but actually begun not long after the accident. The new bridge, which has 85 piers, and is two miles long, is erected 60 feet higher up the river than the old structure. It is built with double lines on a steel floor, and its height above highwater-mark is 77 feet under four of the spans in the navigable channel. The bridge, which finds connection, by seven piers on land, with the North British system running into Dundee, was opened for

traffic in the summer of 1887; and the company obtained the leave of Parliament to let the piers of the old bridge remain in the river, practically as bulwarks to the four spans of the new viaduct, on condition that they were built up to the water-mark and lighted; so the passengers who pass in the hundred trains daily across the new bridge have a vivid reminder of the fate that befell the travellers on the wild night when the old bridge plunged into the seething waters.

Dr. Siemens' prophecy that the Firth of Forth would be "spanned by a bridge exceeding in grandeur anything yet attempted by engineers" has come true; and the Midland Railway Company were enabled to place on the title-page of their time-table in the summer of 1890 the modest announcement: "Opening of the direct route to and from Dundee, Aberdeen, Perth, and the North of Scotland, June 2nd," and further to inform passengers that as travel by the bridge materially shortened the distance between London and the land of Highland chieftains, glens, lochs, and salmon, they intended considerably to improve the train service. Some of the shareholders scarcely relished the tax for the use of the bridge. The company had been rash, they considered, in promising to assist in making up any possible deficiency in receipts; but everybody in the pursuit of business, and many in the pursuit of pleasure, were delighted when the bridge was ready for use, and so transient is the depressing influence of a great calamity that the first travellers across the gigantic structure were not disturbed by the memory of



VIEW FROM THE NORTH END OF THE TAY BRIDGE AFTER THE DISASTER.

the Tay Bridge disaster. Even the traditional old woman, stout, and doubtful as to the stability of the bridge, sitting as lightly as she could in the corner of the carriage, and holding her breath and her tongue so resolutely, that the train passed by pillar, girder, and through the lattice with safety, was thoroughly convinced, when she got to the other side of the Firth, that the bridge was "as safe as a rock."

One writer on the look-out for a comparison says that "gigantic as the tallest guardsman is to a newly-born infant, so is the Forth Bridge to other bridges." Its piers are nearly as high as St. Paul's Cathedral, its big spans are a third of a mile long, and its strength is such that it will carry two trains, a rolling load of 140 tons, and bear a wind-pressure on its main spans of nearly 8,000 tons. The structure is built on the cantilever principle. The unlearned in engineering and in the fixing of brackets for house decoration may ask,

THE OLD TAY BRIDGE.

without any taunt of ignorance, "What is a cantilever?" The reply is that—

"A cantilever is simply a bracket, and the principle of the bridge is merely that three huge towers have brackets, over an eighth of a mile in length, projecting out from them on either side. The brackets are pairs of steel tubes—long enough for a coach and horses to drive through—rising from the base of the piers, meeting at their further end the horizontal girders along which the railway runs, and supported at the same point by equally huge steel bands stretching downwards from the tops of the piers. . . . Mr. Baker has given a graphic illustration of the design of the bridge by photographing a living model, in which the piers are men seated on chairs, and stretching out their arms to grasp with either hand one end of a stick which is attached at the other end to the seat of the chair."*

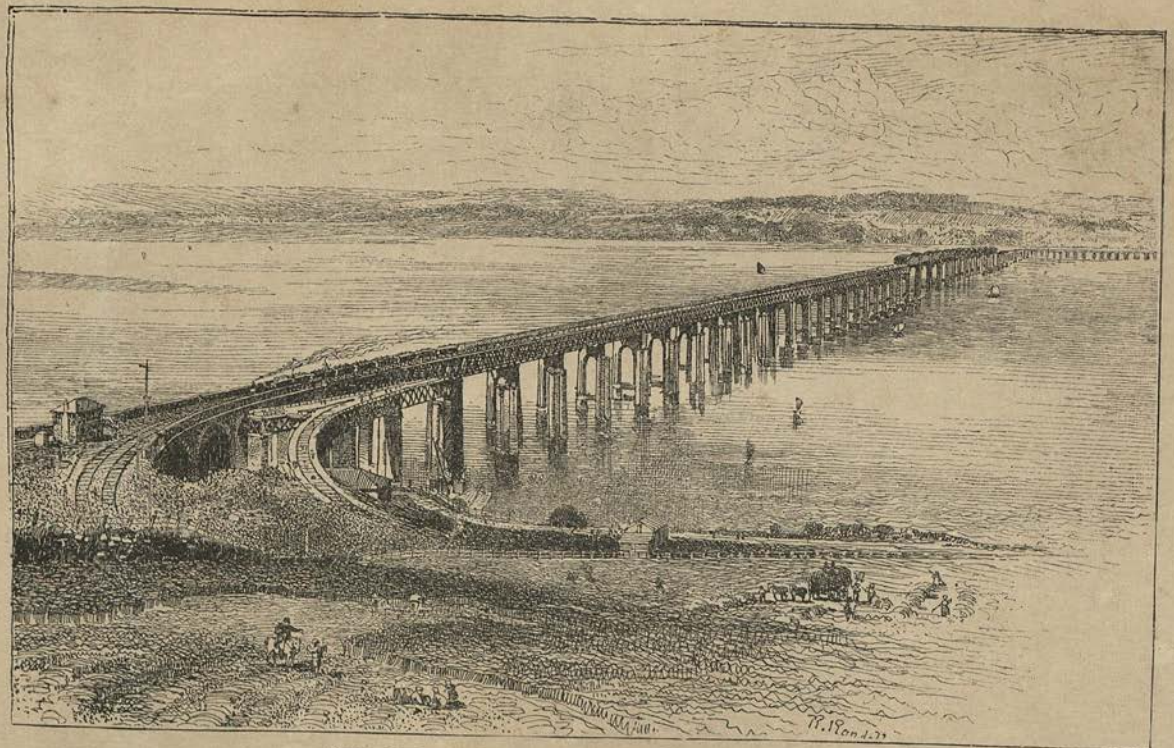
Mr. F. E. Cooper, who was the resident engineer, has been good enough to supply the author with a terse description of the structure. "The Forth Bridge," he says, "is the most important link in the direct communication which the North British Railway and their allies, the Midland and the East Coast Companies, have completed between Edinburgh on the one hand, and Perth and Dundee on the other, to enable them to compete with the West Coast Companies for the North of Scotland traffic. The total length of the viaduct is 8,296 feet, or nearly $1\frac{5}{8}$ miles, and there are two spans of 1,710 feet, two of 680 feet, fifteen of 168 feet girders, four of 57 feet, and three of 25 feet. The clear headway for navigation measures 150 feet in the centre of the 1,710 feet spans. The main piers, which are three in number, consist each

* "The Railways of Scotland," by W. Acworth.

of a group of four masonry columns, faced with granite, 49 feet in diameter at the top, and 36 feet high, resting either on the solid rock or on concrete. The superstructure of the main spans is made up of three enormous double cantilevers resting on the three piers. Those on the Queensferry and Fife shore side are 1,505 feet, and that on Inch Garvie—an island which divides the deep-water space into two channels of nearly equal width—1,620 feet in length. The centre portions of the two 1,710 feet spans on each side of Inch Garvie are formed by two lattice girders 350 feet in length and 50 feet deep in the centre. No fewer than 140,000 cubic yards of masonry and concrete have been used in the foundations and piers, and there are 35,000 tons of steel in the superstructure."

The great Forth Bridge is a triumph of modern engineering; and when Mr. Gladstone strode along the steel track, on one of his Midlothian tours, he was earnest in his admiration of the work, which indicates in a colossal fashion how rapid has been the progress of science, manufacture, and engineering since he, to quote his own words, "crossed the Forth, in a little bit of an open boat tumbling about, as far back as 1820." The bridge was formally opened on March 4th, 1890, with considerable ceremony. The Prince of Wales, standing in the middle of the north connecting girder, attended by Sir W. Arrol, the contractor, and by Lord Rosebery, Sir Benjamin Baker, the Marquis of Tweeddale, and others,* drove in the last rivet, a gilded

* See the frontispiece to this volume.



THE NEW TAY BRIDGE, FROM THE SOUTH.

(From a Photograph by Valentine and Sons, Dundee.)

one; and, amid a storm of wind and rain, declared the bridge open. At a banquet the same night in Edinburgh the Prince proposed "Success to the Forth Bridge," and announced that the Queen had made Sir Matthew Thompson, the chairman of the Forth Bridge Company, a baronet; that she had conferred a similar honour on Sir John Fowler, the chief engineer; that Mr. Benjamin Baker had received the distinction of Knight Commander of the Order of St. Michael and St. George, and that Mr. Arrol, the contractor, had been knighted.

A railway journey across the bridge on a boisterous night has a spice of romance. The gale was fierce on January 29th, 1892, and how the great structure comported itself in the blustering wind was vividly described by a passenger:

"To one who has not travelled on such a night it is difficult to afford an adequate idea of the unnerving influence which a hurricane shrieking amongst the lattice work of the bridge, and positively making the carriage dance upon the rails, has on the mind. As we came up to the signal-box at the north end of the bridge the train was brought to a standstill, the line not being clear, and there we stood five minutes in the full fury of the storm as it swept down the Forth unchecked by any obstacle, waiting till the pointsman permitted us to cross. I do not know what scientific observations may have revealed the velocity of the wind at the time to be, but I have no hesitation in saying that, though I have travelled a good deal in my time, I never before have been in a train so severely shaken by the wind. Though stationary, the train seemed to be dancing about on the rails as if steaming over a rough road at express speed, and the noise of the roaring wind was by no means pleasant music to those who were about to cross the bridge. A gust more powerful than any we had yet experienced had just set

the train shivering from end to end when our driver got the signal 'All clear.' Slowly and stubbornly, as if the elements were holding us back, we crept on to the bridge, and in a few seconds we were on the first cantilever. The bridge itself was no more affected by the storm than, according to the engineer's calculations, it ought to have been in a wind of such velocity. The Forth Bridge stands fast in the face of the wildest storm. It rears itself majestically amid the waters, and presents an invulnerable front to the elements. To cross it on such a night is to repose implicit confidence in it hereafter, for though at the time I was not sorry to find myself on land again, I could not help but feel that any misgivings I had previously cherished respecting the stability of the structure were swept away for ever."

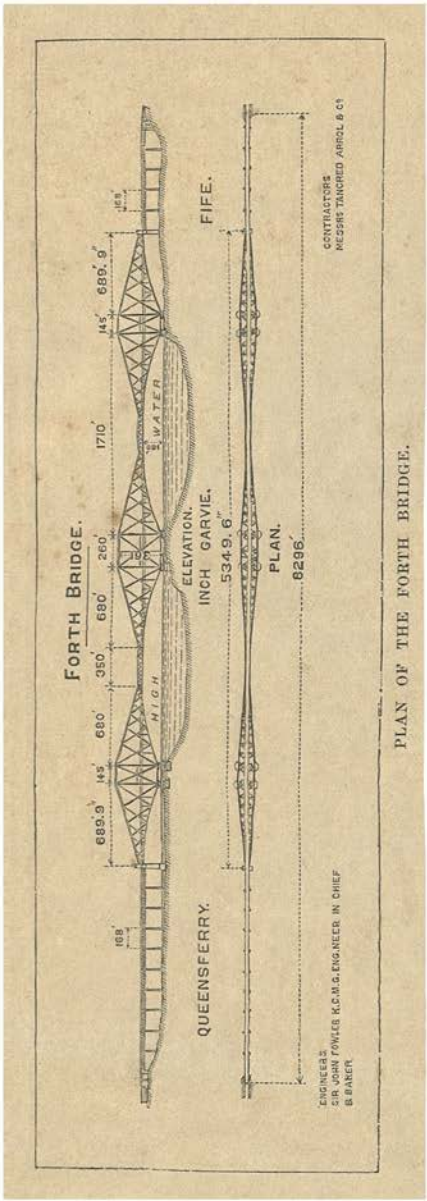
Discussing the commercial aspect of the costly undertaking, the *Railway News* says:

"The capital authorised in the original Act of 1873 was £1,250,000. The fall of the Tay Bridge gave the death-blow to the first scheme, that of Sir Thomas Bouch, which gave place to the designs for the more costly and more substantial structure, prepared by Sir John Fowler and Sir Benjamin Baker. The ultimate cost was £3,367,610. The total length of the Forth Bridge (including the lines of approach) from Dalmeny to Inverkeithing, is 4 miles 16 chains. The cost, therefore, averages £800,000 per mile, and it is unquestionably the most expensive piece of line in the world. The receipts in the last half of 1890 were £40,953, the interest on debentures, loans, and dividends £61,931, and the deficiency £11,977. In the first half of 1891 the receipts were £47,450, the interest £61,449, and the deficiency £13,998. The deficiency has been made up from a trust fund; but, trust fund or no trust fund, the shareholders have nothing to fear. Their interest is strongly guaranteed. The four companies using the bridge—the Midland, North British, North-Eastern, and Great Northern—are under an obligation to make up any deficiency in receipts required to pay interest at the rate of 4 per cent. per annum on the nominal called-up capital of the company. The Midland, Great Northern and North-Eastern Companies are protected to the extent that the

North British are required to guarantee a minimum earning of £40,000 per annum, and further that if the North British pay 5 per cent. continuously for four years on their ordinary stock, the remaining companies are to be relieved of half the guarantee in perpetuity. The bridge is on North British territory, the traffic over it is worked by the North British at 50 per cent. of the receipts on actual mileage, and as they are the greatest gainers, they are necessarily the most heavily handicapped with the guarantee."

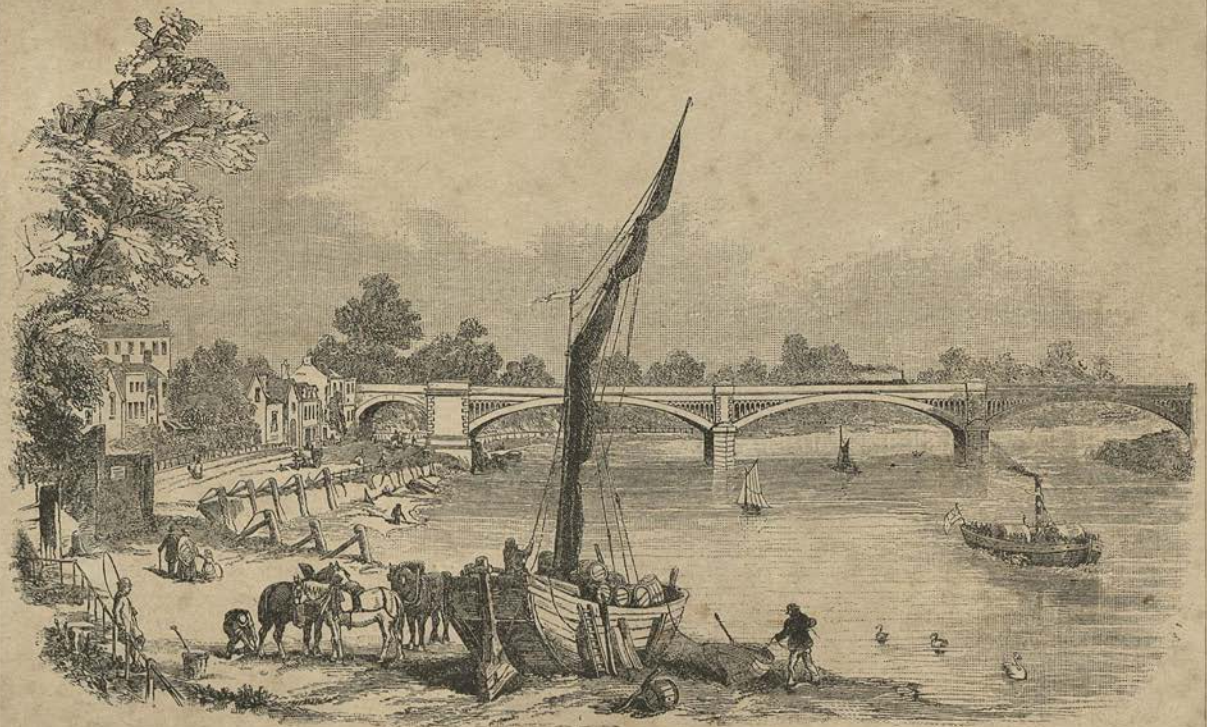
The bridges across the Thames indicate by pier, parapet, and lattice the engineering progress of England. There is a world of romance associated with these water-lapped fabrics. Westminster Bridge spans the river with stately grace, in the neighbourly light of the Clock Tower, and every inch of ground near it prompts thought of the great in religion, in art, in literature, and in government. London Bridge suggests the ceaseless striving and struggling of modern life, and now and then its failure, bitter misery, and profound despair. Higher up the Thames there are bridges that look down upon the outrigger, balanced in the current by strong-armed, brown-legged youth, on foliaged banks, on lichened boat-house, on garden, orchard, and woodland; but the railway bridge, even though it is built amid such a tempting scene of restfulness, has its work to do. There are no fewer than eleven railway bridges over the Thames. They stretch across the river at Kingston, Richmond, Kew, Barnes, Putney, Battersea, Victoria, Charing Cross, Blackfriars, St. Paul's, and Cannon Street, and these structures, some of them magnificent in span and gigantic in proportions, have cost nearly

THE FIRST TRAIN CROSSING THE FORTH BRIDGE.



PLAN OF THE FORTH BRIDGE.

six millions sterling. But none of them is quite so surprising as the latest addition to the bridges of the Thames. The new Tower Bridge, with its huge towers of steel and masonry, its three great spans, its lofty girder-way for foot passengers when the double drawbridge is raised for the passage of vessels, is indeed a remarkable outcome of engineering thought and work; and the fifteen thousand tons of iron and steel used in its construction have been put to better purpose than the iron and steel in the weather-beaten, historic Tower close by, where there are many indications of the mineral wealth of the country, fashioned in a merciless



BARNES BRIDGE IN 1849.

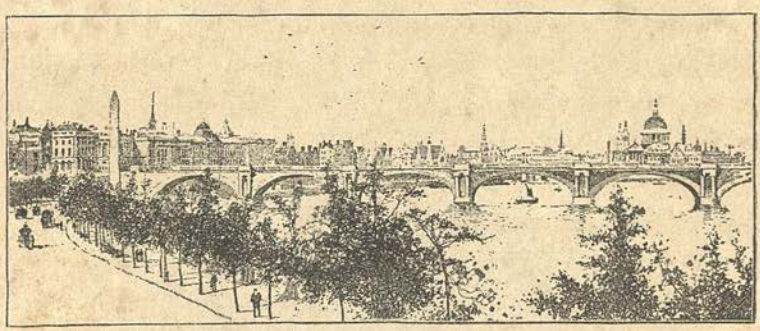
period of the nation's history into axes and instruments of torture that were not always applied to the heads and bodies of traitors.

The attention of the railway companies was sharply drawn to the condition of their roads by a disquieting accident that happened on the London, Brighton and South Coast Railway on May 1st, 1891. The 8.45 morning express train from Brighton for London Bridge Station was travelling rapidly over Portland Road Bridge, near Norwood Junction, when it left the rails, part of the bridge having given way through the collapse of a girder. The accident aroused a good deal of misgiving among passengers not only on this, but on other lines, and the feeling of insecurity was accentuated by Major-General Hutchinson's report to the Board of Trade. "The cast-iron girder which failed on this occasion had," he said, "been in its place for about thirty-one years, and during the whole of this time had had concealed in the interior of the web and in the outer part of the lower flange a very serious flaw, abstracting at least one-fourth from the strength of the girder. This flaw was invisible to even careful inspection after the girder had been placed in position; nor was it visible when the girder was cast, owing to the practice of using sheet iron in the foundry operations at special parts of the castings, such as gussets. Independent, however, of the flaw in this girder, it did not possess a sufficient theoretical margin of safety for the passage of the engines now in use on the line." The company, he said, were deserving of much blame

for not substituting stronger girders, and he urged that throughout the system cast-iron girders should be replaced by wrought-iron ones.

The frank and breezy opinion of the Government inspector caused a rustle among the directors. Sir John Fowler, the consulting engineer of the company, was instructed to examine and report on the condition of all the bridges and viaducts on the line, and he presented his report on June 17th of the same year, as follows:

"Mr. Banister has supplied me with full information respecting the cast-iron bridges on the Brighton Railway and its branches. The total number is 171, of very varied size and character. I have personally inspected the Victoria Bridge over the Thames, the Ouse Viaduct, the Shoreham Viaduct, and several typical bridges. The Victoria Bridge is a strong and good bridge in every respect, and will be so for very many years. The timber of the permanent way now requires renewal, and this is being done. Being an arch bridge, passing trains cause a movement which may be termed 'vibration' as distinguished from the movement or deflection of an ordinary girder bridge, which has less vibration, although probably more movement. No anxiety whatever need be felt about the Victoria Bridge. I walked over the ground of the site of the Ouse Viaduct and examined every pier and arch. I found this fine structure, which is exceptionally strong, in excellent condition. The Shoreham Viaduct consists of 36 spans of 30 feet each, with cast-iron girders resting on timber piers. The time has arrived when this viaduct would require renewal in a few years by substituting iron cylinders for timber piers and wrought-iron girders for cast-iron. I recommend, however, that this renewal be carried out as soon as arrangements can be made, and whilst the viaduct is in a perfectly safe state. Besides the Shoreham Viaduct, there are about twenty bridges which, in my opinion, should be reconstructed by the substitution of wrought-iron (or preferably steel) for cast-iron during the next twelve months, or sooner if possible, and about sixty others

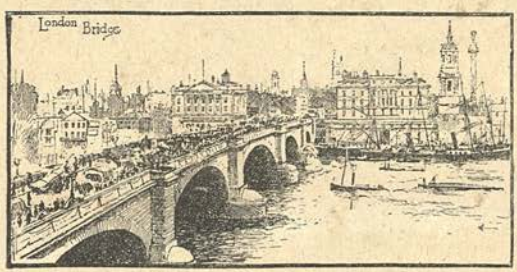


WATERLOO BRIDGE.
(Photo: G. W. Wilson & Co., Aberdeen.)

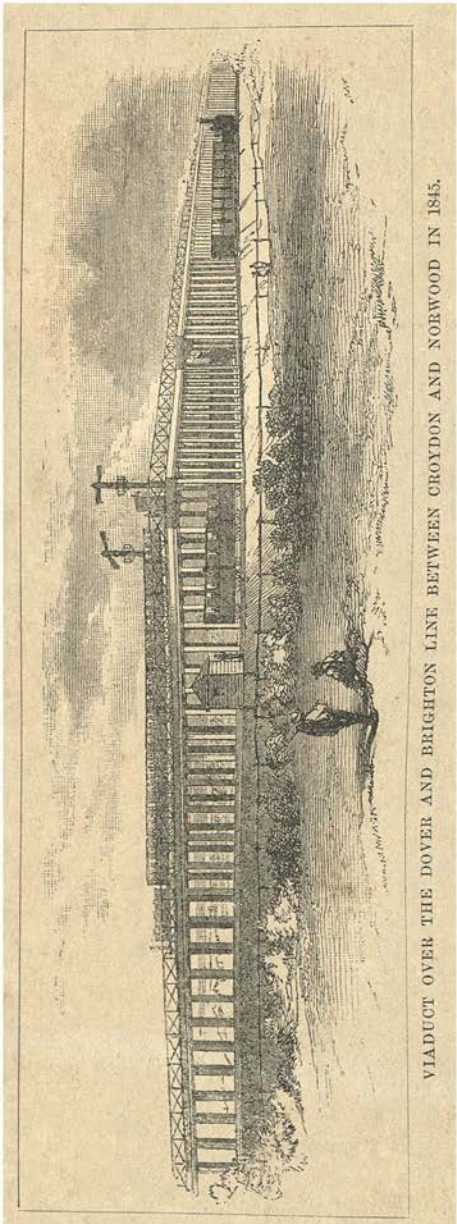
should then be reconstructed. The advice given in this report for the gradual reconstruction of the bridges is based upon considerations affecting the vast majority of railways in the kingdom—namely, the great increase in the weight of modern locomotives and the superior endurance of wrought-iron or steel as compared to cast-iron when high speeds, heavier engines, and consequently a greater vibratory action, have to be provided for. The result of my investigation does not indicate any unusual weakness in the Brighton bridges, which are neither better nor worse in that respect than those on similar lines of railway at home or abroad."

The great companies took heed of the report. They set about strengthening and improving their bridges, and did all they could to re-assure passengers. Lord Stalbridge, on behalf of the London and North-Western, said neither the shareholders nor the public need be perturbed as to the state of the permanent way, for the engineers would see to it that the line was kept, with regard to bridges and everything else, up to the requirements of the present day. Mr. Paget, the chairman of the Midland, said, with regard to their bridges, there was a large margin of safety. The company had 992 wrought-iron and 181 cast-iron bridges, and they

now asked the shareholders to allow them to reconstruct the 181 cast-iron bridges, for which purpose they proposed to spend £85,000. The failure of the Tay Bridge had, he said, made the directors so anxious for the stability of the bridges on the Midland system, that during the past ten years they had spent at least £1,000 per week on the maintenance and renewal of these important parts of the permanent way. Mr. Dent Dent, the chairman of the North-Eastern Railway, pointed out that there need be no alarm as to the condition of the bridges on their system, for the most important bridges over the Yorkshire rivers, such as the Wharfe and the Swale, had already been replaced. Other chairmen, at the half-yearly meetings, spoke in a similar strain; and bridge rebuilding and repair were carried on with zeal on many an English railway—"with one accord" directors sought to make their lines secure. The giving way of the girder proved a costly mishap to the London, Brighton and South Coast Railway Company. No passenger's life was lost. The cases of serious injury were few. Nevertheless, chiefly



LONDON BRIDGE.
(*Photo: G. W. Wilson & Co., Aberdeen.*)

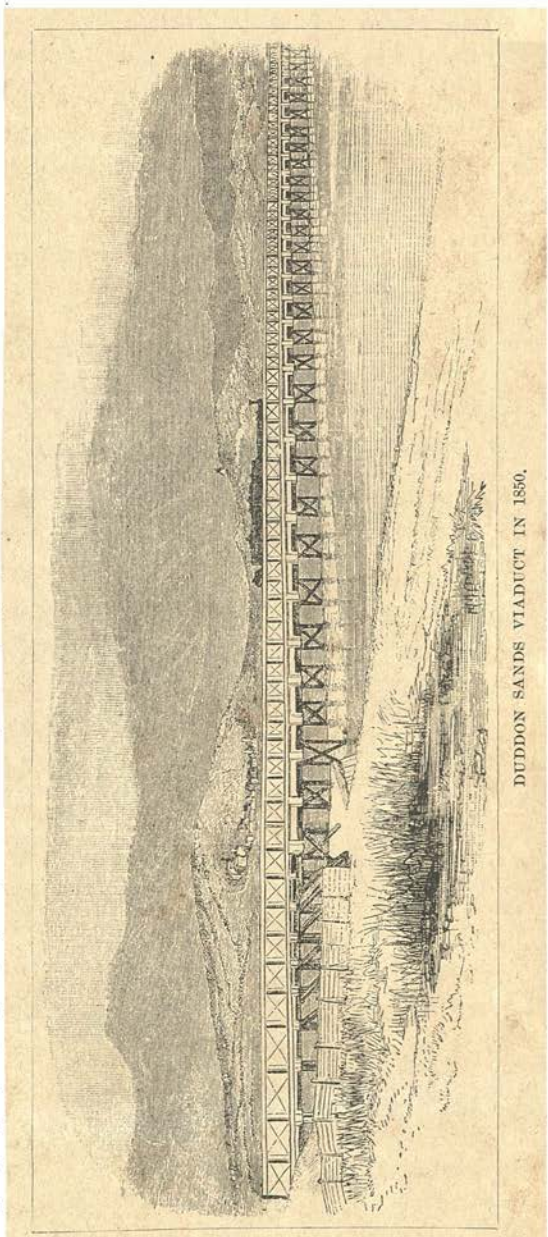


VIADUCT OVER THE DOVER AND BRIGHTON LINE BETWEEN CROYDON AND NORWOOD IN 1845.

owing to the class of persons injured, the company had to pay heavy compensation; and the broken girder practically cost them £20,000.

The collapse of a railway bridge was not regarded as so serious a matter some years ago as it is now. A humorous conversation on this subject took place in the early days of railway construction. "The letters A B C," says the writer who recorded it, "must suffice to stand for the names of three engineers of the greatest repute in those times, some fifty years ago. Mr. A related that, on reaching his London offices one day, he received a report that another bridge had fallen. The

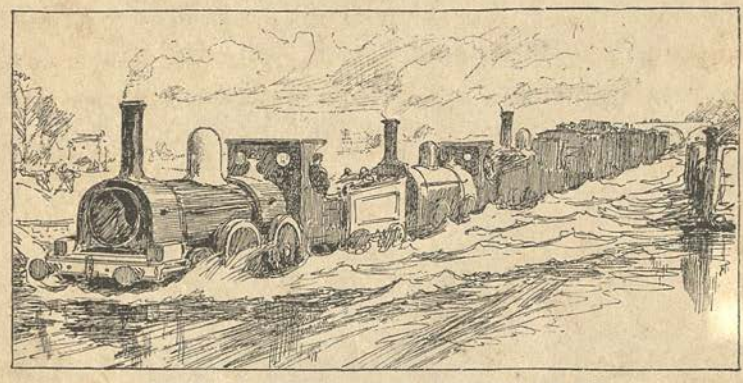
sub-engineers in the department, hearing of this, held a conference, and began to bet 'on whose bridge it was.' Heavy odds were laid on its being one by Mr. X, who had earned a grim notoriety in this respect. But Mr. X confidently denied it, and declared he would accept odds to any amount; and as this cooled the ardour of his brother engineers, he quietly explained: 'I knew right well it could not be mine, as my last fell in a couple of days ago.' Mr. A then acknowledged that ten of his bridges on an important



DUDDON SANDS VIADUCT IN 1850.

line had failed; Mr. B owned to fifteen; and Mr. C said: 'I really cannot undertake to say how many bridges of mine have fallen down, but one has certainly failed *six times*.'"

CONGLETON VIADUCT IN 1849.



FLOOD AT CREECH, NEAR TAUNTON, IN 1889.

CHAPTER XXXIX.

SNOW, FLOOD, FOG AND FIRE.

Snow—A Costly Foe—Lines Blocked with Drifts—Snowed Up in the West Country—Strange Adventures—Loss through Storms—Floods in the Midlands and the North—Broken Viaducts—The Station-Master's Refuge—Fog—Accident and Incident—Fires at Wolverton, Leeds, and Salford.

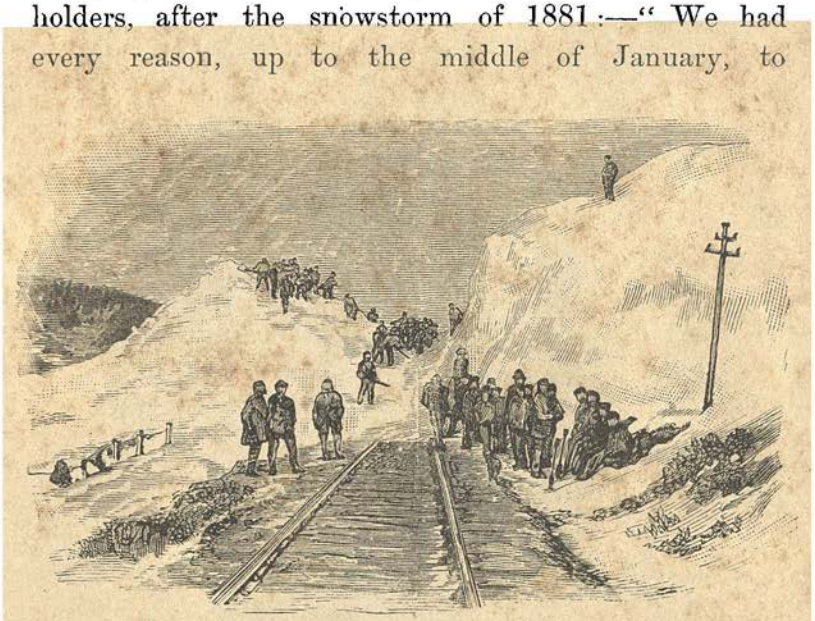
THE most costly foe to the railway is the snow-storm. Notwithstanding the utmost vigilance in the way of line-fires and snow-ploughs, it is by no means difficult for a train to get snowed up, and this not only means a complete block of the line, and a serious interruption of passenger and goods traffic, but a marked depreciation of the rolling-stock embedded. There were, before the invention of the snow-plough and the better organisation of digging-out gangs, many whimsical experiences of passengers in snowed-up trains; but we have not, even yet, learned thoroughly how to cope with Nature's winter

frolic on the line. The Great North of Scotland Railway was, on December 26th, 1880, blocked on several lengths by a heavy snowstorm, and between Forfar and Aberdeen five trains were snowed up.

SNOWSTORM ON THE HIGHLAND RAILWAY IN 1881: FINDING ONE OF THE BURIED TRAINS.

Throughout the north-west of England in the following year the snowfall was as heavy as any that led to mishap and delay in the coaching days. The storm was severe in Scotland too. On the Highland Railway the snow-block was four miles long. Three trains were buried beneath a huge drift, and a relief train sent to their rescue was also lost for some time. Dava Station, snow and ice-bound, looked like an explorer's hut in the Arctic regions; but there was a busy scene near it, gangs of men digging day and night to release the trains, in one of which many cattle had been smothered by the snow.

The chairman of the Great Western Railway Company made this dismal statement to the shareholders, after the snowstorm of 1881:—"We had every reason, up to the middle of January, to



SNOWSTORM ON THE HIGHLAND RAILWAY IN 1881: SEARCHING FOR THE LOST RELIEF TRAIN.

anticipate that we might have been able to offer the shareholders a dividend in excess of what they had previously received, but you all know that in the middle of that month a snowstorm occurred, the first we have had in the history of this railway to interfere with our traffic, and wiped off something like £56,000 of the amount available for dividend. There is no doubt the storm was much more severe on our line than on any other. Its great weight fell on the counties of Berks, Wilts,

and down towards Weymouth. We had to excavate 111 miles of snow, varying according to the drift from three feet down to ten feet in depth. We had, unfortunately, fifty-one passenger trains and thirteen goods trains buried in the snow, making a total of sixty-four, and we had blocks on 141 different parts of the system."

A fierce storm swept over the west country on March 9th and 10th, 1891, and many trains were snowed up, the lines in some places being blocked by huge drifts against which no snow-plough could prevail. The evening mail from Princetown to Yelverton, on the Great Western, was snowed up "in one of the wildest parts of Dartmoor," from Monday night till Wednesday morning. The snow, driven by the boisterous wind, beat through the tiniest crevices into the compartments, and the passengers—four men and two women—had a wretched experience, for they were not liberated until thirty-six hours had elapsed, when they were nearly dead with hunger and cold.

One of the imprisoned travellers, describing the efforts to dig the train out of the snow, and the way they passed the time when they found that further progress was impossible, says: "The driver, fireman, and guard went to the front of the train with shovels to try and dig a way for her, but it was no good. The place where we stopped is on a bit of decline, but the engine was choked with snow. The guard, having told us that we could not get

THE GREAT WESTERN EXPRESS SNOWED UP IN 1891.

on without assistance, proceeded in the direction of Dousland to get help. He had been gone about an hour, when he returned with the intelligence that he had lost his way, and that it was no use for him to attempt to reach Dousland, as the snow blinded him. We decided to make ourselves as comfortable as we possibly could under the painful conditions to which we were subjected—six men and two ladies huddled together in one compartment—the cold being most bitter, and none of us having anything to eat or drink. We lived the night through, but in what way I can hardly tell. In the morning the wind was blowing as strong as ever, and the snow as it fell melted on the window-panes, and the lamp—our only light—was extinguished at 7 a.m. Just at this time the guard and fireman left us, saying that they were going to try and reach Dousland with the 'staff.'

"Some little time afterwards the driver, who had, I believe, been seriously ill, announced his intention of going to Dousland. We then felt in a particularly sad condition, feeling our only hope was gone now that the driver had abandoned us. The storm was raging as fiercely as on the previous night, but at 3 p.m. we were agreeably surprised to find three packers, who had tramped up from Dousland with refreshments for us, knock at our door. We were heartily glad to receive the refreshments, although they only consisted of cocoa, bread and butter, and cake, with a bottle of well-watered brandy to follow. We found there

was enough for us to have one piece of bread and butter and one piece of cake each. This was not a very substantial bill of fare for people who had had nothing to eat for over twenty hours, but we were thankful for small mercies. We then awaited

DAMAGE TO TELEGRAPH WIRES BETWEEN CHATHAM AND DOVER IN SNOWSTORM OF 1892.

the result of events. The wind was fearful, and we were all bitterly cold. We were nearly dead in the afternoon, and drank all the brandy by eight o'clock. If it had not been for that, some of us would have given way. The weather was milder after midnight. About seven o'clock the next morning, one of us, looking out of the window, saw Mr. Hilson, of Horsford, farmer, whose farm is only about 250 yards

from where our train was lying, picking sheep out of the snow, and he assisted in effecting our rescue. The engine of the train when we left was completely covered with snow, and the snow had drifted as high as the carriage, with a blank space between the body and the wheels. All the compartments into which I looked—although the windows and ventilators were closed and doors locked—were full of snow above the hat-racks. It was the most horrible experience of my life."

In the same storm the driver of the mail train from Launceston found the line strewn with trees, hurled across the track by the wind. One he managed to push along for some distance; but another became wedged beneath the engine, and the great piece of timber was with difficulty removed. Finding it impossible to get the train through, the driver took the passengers on his engine, and in two journeys got them safely to Horrabridge, though the running was very perilous, owing to the blinding snow and the obstructions on the line. No fewer than ten trees were found lying across the rails, and they had to be sawn or crowbarred out of the locomotive's path before it could make any headway. The officials who went out to the rescue of the disabled train found life at first exciting and then made up of endurance and patience. Some, after a gallant fight with drifts and with the hurricane, which actually rocked the carriages, passed the night as best they could in the relief train, the

THE *VICTORIA* BETWEEN DOVER AND CALAIS IN THE SNOWSTORM OF 1891.

engine of which had finally to be dug out; and others took refuge for the night in a waiting-room.

At Kingsbridge the roads were impassable, and several men, determined at all hazards to get to their homes at Ivybridge, "wriggled along on their stomachs, Indian fashion," over the snow, which had fallen so deeply that highways and hedges were alike obliterated. When they reached Ivybridge their faces and forms were covered with frozen snow. This curious exploit, during which they had to pass under many natural archways of snow built by the storm's whim, was very exhausting, and one of the crawlers confessed: "For thirty years have I been a teetotaller; but several times during the journey I had to take a nip." Some of the snowdrifts were two hundred yards long and twelve feet deep; and several of the passengers in a snowed-up train at St. Austell made a bridge of foot-warmers across one great drift, managed to reach the turnpike, and struggled on to warmth and shelter.

The storm figured in the company's balance-sheet, and Mr. Saunders, the chairman, announced at the August meeting in 1891 that in consequence of the bad weather in the early part of the half-year, including a snowstorm such as had never been known before, which absolutely closed the line for some days, and owing in part also to an unfortunate slip in the Marlay Tunnel, traffic and receipts had been somewhat diminished, while the cost of working and of the maintenance of the lines had been seriously increased.

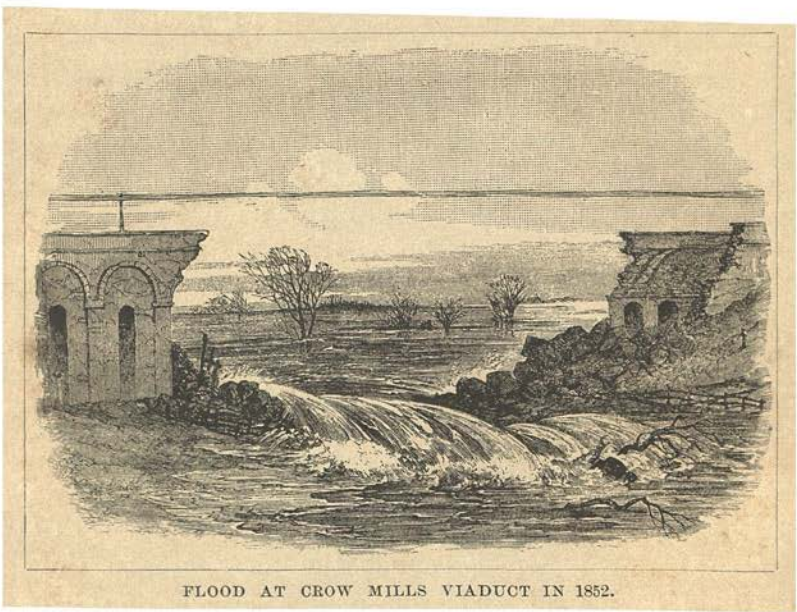
The snowstorm caused a serious increase in the expenses, and although their earnings had increased £131,000, their expenses were nearly £150,000 more.

Great havoc was made among the telegraph wires on the line-side by the snowstorm of 1892; in the previous year there was anxiety as to the safety of the cross-Channel steamer, *Victoria*, on her voyage over the rough, snow-swept sea, between Dover and Calais; and in March 1889, a severer storm rioted at Bristol, Taunton, and Creech. Railways and streets were flooded, and on the Bristol and Exeter track one train, drawn by three engines through the rising waters, tossed the spray almost as if it were flung from a steamer's bows.

The damage done to the permanent way by flood is never repaired without great outlay. The year 1852 was notable for its heavy rainfall. On and about the Midland there were many serious floods which caused great damage to embankments and cuttings, and undermined even the strongest railway fabrics. The waters surged fiercely about the piers of the Crow Mills Viaduct, at Leicester, and a miller who lived near had scarcely given warning of the insecurity of the structure when it collapsed with a crash into the river, and made a huge gap in the line that would, if undiscovered, have led to grievous disaster. In the first week of October, while a brilliant meteor flashed in the night sky, a flood surged through the North of England, doing enormous damage at Darlington and elsewhere. There had been heavy rains for days; many fields along the Great Northern route were

submerged; scarcely any landmark, except the tops of the hedgerows, could be seen, and the water was so deep about the line at Ferryhill that one train had to put back to Newcastle.

The Apperley Viaduct across the river Aire is asso-



FLOOD AT CROW MILLS VIADUCT IN 1852.

ciated with a dramatic incident. On November 16th, 1866, the river, swollen by floods, overflowed its banks to a breadth of half-a-mile. Returning from his work over the viaduct, a platelayer chanced to notice a break in the masonry in the arch, and ran to Apperley Station with the news. The down trains were stopped, and the stationmaster hastened up the line to stop a goods train that was almost due. But before he got to the viaduct, he saw the train emerging from the

tunnel on the other side. He waved his red light, and the driver and fireman, having shut off steam and put on the breaks, but without waiting to reverse the engine, jumped off and escaped without serious injury, while the train went on, and broke through the viaduct.

FLOOD BETWEEN DARLINGTON AND FERRY HILL STATIONS IN 1852.

A severe storm swept over the country on June 19th, 1872, and the water, percolating through the highlands, caused a serious slip at the north end of Dove Holes Tunnel on the Peak line, stopping the traffic for nearly six weeks, and costing the Company £10,000 in repairs.

One of the most remarkable hindrances to traffic in recent years occurred in London on April 18th, 1892. The city was swept by a rain-storm of such violence that the main sewer burst under the down line of the London and North-Western Railway at Hampstead Heath, and the brickwork was hurled across both lines, which were deeply flooded.

In his book on railway management, Sir George Findlay wrote:

"A notable illustration of what can be done in an emergency by a company like the London and North-Western, possessing great resources, occurred when, in the great storm of Sunday, August 17th, 1879, the Llandulas Viaduct, on the main line of the Chester and Holyhead Railway, was undermined by flood and washed completely away, interrupting, for the time being, the traffic between England and Ireland. For two days, until the flood subsided, nothing could be done, but within the space of five days afterwards the railway was deviated for about half a mile, so as to strike the river at the narrowest point, and a temporary trestle bridge was erected, over which the first train passed at two o'clock in the afternoon, on August 24th, exactly seven days after the mishap occurred. . . . The new permanent viaduct was, meanwhile, rapidly constructed, and was actually completed and opened for traffic on September 14th, less than one month after the mishap; a very quick piece of work when it is considered that the viaduct is 224 feet in length, 50 feet in height, and has seven spans."

At Scorton, in Lancashire, in 1891, the line was seriously flooded, many acres of land being under water. The stationmaster's house was inundated, and he had to seek refuge, with his family, in the booking-office.

Fog on the railway, again, means greater expenditure and diminished receipts. The grey-yellow-orange-chocolate mystery, that chokes people in town

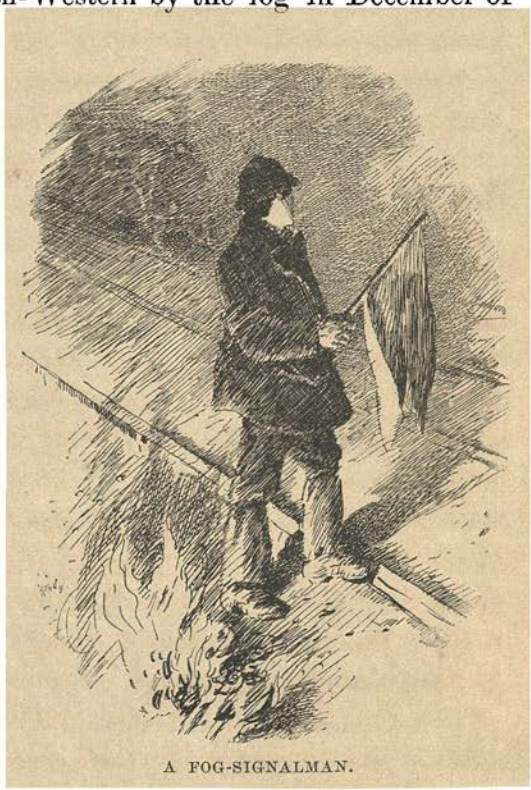
and exasperates travellers in northern cities, is more costly than most people understand. The bang, bang, on the line throughout day and night, that tells you the fog-signalman is steadily at work warning the drivers of trains, proves an expensive pastime when the accounts are made up, for at one station alone as many as forty gross of these penny-shaped signals, made of gun-caps and powder, have been placed on the rails during a fog that was rather tardy in lifting.

The strike of London gas-stokers on December 3rd, 1872, gave passengers on the Underground Railway a novel experience. For some hours there were no lights at many of the stations; and at Ludgate Hill the trains had to feel their way to the platform through chaos, much to the astonishment of some nervous travellers, who thought the sudden and dense darkness portended the break-up of the universe. London was shrouded in a fog of even more than characteristic density on February 10th, 1886, and while the great city was in a tantalising condition of murkiness and resultant confusion, no fewer than thirty persons were injured in an accident at Finsbury Park Station, on the Great Northern Railway.

One of the densest fogs experienced in this country enveloped Birmingham in the middle of January, 1888, and greatly delayed railway traffic. A modern prophet had predicted that about this time "the world would come to an end," and the murky atmosphere inclined the timid to think that the dread performance was about to begin; but no more harm

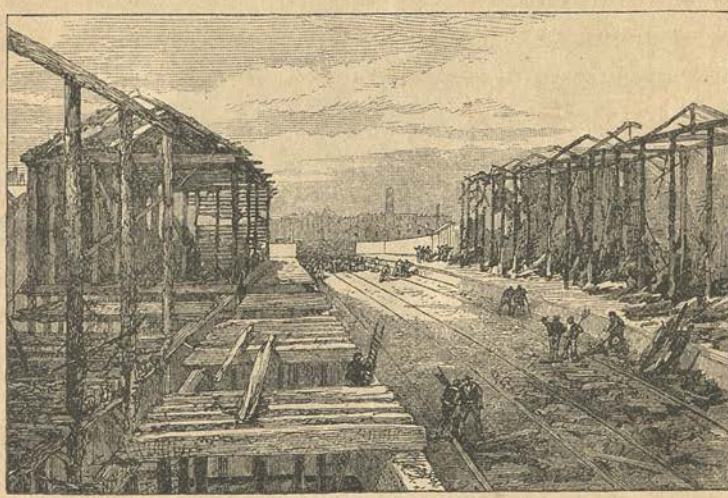
came of the temporary chaos than from the magic almanac and the darkening of the moon in "King Solomon's Mines;" and there is enough bustle of travel at New Street Station to-day to knock the conceit and folly out of a large staff of prophets. There was also a great deal of fog during November and December, 1891, when Nature (and house-fire smoke) took a leaf out of "Bleak House," and there was "Fog everywhere. Fog up the river, where it flows among green aits and meadows; fog down the river, where it rolls defiled among the tiers of shipping, and the waterside pollutions of a great and dirty city. Fog in the Essex marshes. Fog on the Kentish heights." The railways were greatly bothered by this dense ogre of fog, that seems, in its sluggish might, like an unwieldy giant, incapable of thought and action, after it has nestled down in the city. In the two months during which the fog managed once or twice to turn over, but had not the will to leave us, the South-Eastern Railway used 72,000 fog signals, carrying on the traffic without mishap, except one at the Borough Market, although no fewer than 800 trains per day passed in and out of Cannon Street. Nor was it much better in the country, for the fog wrapped itself about Manchester, Leeds, and Sheffield; and the Great Northern Railway Company, apart from the cost of fog signals, were put to an extra expenditure of £1,500 for gas and electricity, so that their drivers might see and their passengers grope their way.

Sir George Findlay, in his evidence, given in March, 1892, before the Select Committee inquiring into the hours worked by railway servants, described, with some touches of humour, the inconvenience caused on the London and North-Western by the fog in December of the previous year. For the four days preceding Christmas Day, at the time when every part of the line was congested with traffic, the fog was so dense that the fog-signalmen standing at the foot of the signal posts, which were 18 feet or 20 feet high, were unable to see the signals, and the whole business of the railway had to be carried on by fog-signalling, by sound, and not by sight at all. There were serious delays in the marshalling of trains, and many of the trains ran two hours behind time. One distinguished member of Her Majesty's Government, Lord Halsbury, who resided some ten miles out



A FOG-SIGNALMAN.

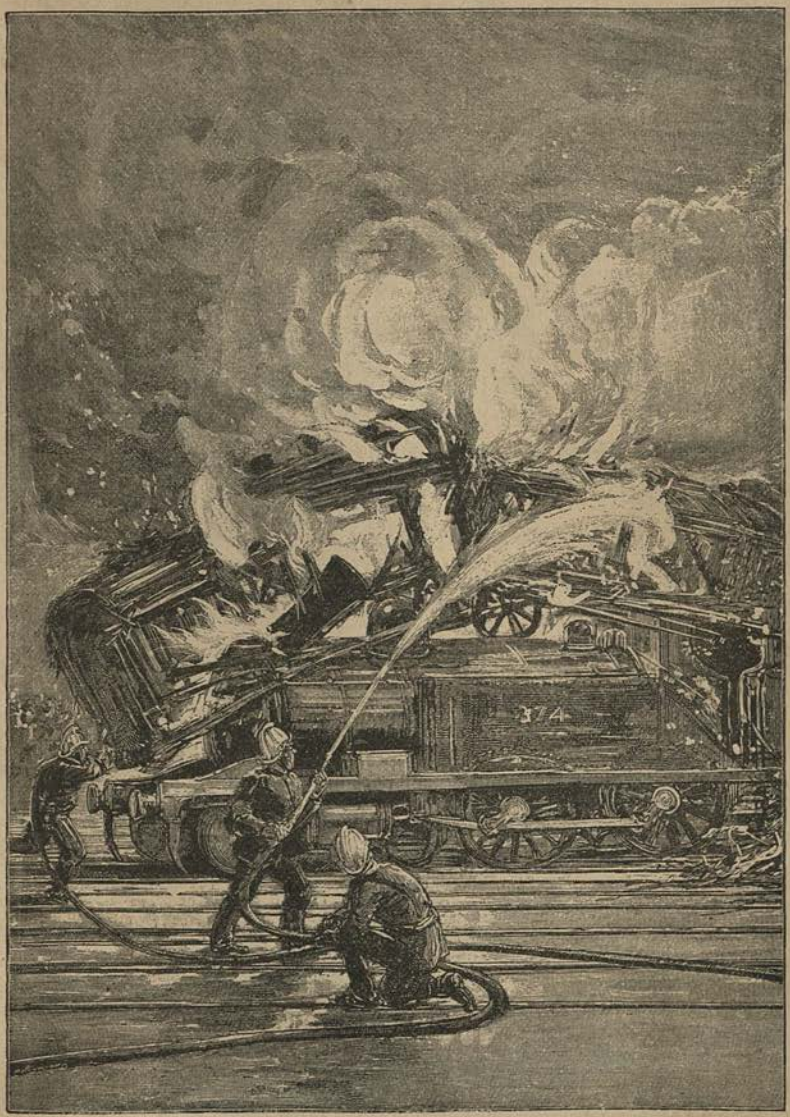
of London, was, on one of those days, two hours travelling that distance, and his lordship testified that in all his knowledge of London fogs he had never known one so bad. Not only was there the fog, but there was frost at the same time, and the difficulty of



SCENE OF THE FIRE AT KENTISH TOWN STATION IN 1892.

getting through the streets of London was such that the Post Office vans arrived too late for the mail trains, and the mails had to be despatched by subsequent trains. As to the goods trains, they were several hours behind time, many as much as twelve or fifteen hours, and some never reached their destination at all—for they were broken up and their constituent parts sent on by other trains.

The management of a great railway, Sir George Findlay continued, was all right so long as things went



TRAIN ON FIRE AT CLAPHAM JUNCTION.

smoothly, but when such a fog came the whole system was disorganised. During those four days he was perfectly helpless, except to give advice; but it was impossible, on the spur of the moment, to attempt to set things right as if by a magician's wand. The Committee concurred in his opinion, that "it is a marvel that the whole of the business did not come to a standstill, and that the greatest credit is due to the men who have been willing to work these long hours in order to get the traffic through."

Fire has wrought much destruction on railways. Carriages, goods trains, warehouses, stations have been in flames, and sometimes the lines and rolling-stock have been damaged by fires that have broken out independently of railway working or neglect. But conflagrations are very much alike, unless they occur at sea, or in a twelve-storey American hotel; and with faithful watchmen, trained brigades, and steam fire-engines it is unlikely that we shall have another "Great Fire of London." There have been, nevertheless, two or three notable railway fires within the past few years. In August, 1872, a fire creeping out of the arches in Prince of Wales Road, Kentish Town, suddenly wrapped the district station of the North-Western in flames, and utterly destroyed it, leaving nothing but wreck of platform, booking-office, and waiting-room. In 1882 the London and North-Western carriage-building shop at Wolverton was gutted, fifteen hundred men were thrown out of employment, and damage was done to the extent of £100,000. Ten years later

there was the disquieting spectacle of a train on fire at Clapham Junction.

One of the most destructive fires that have occurred on English railway property broke out in Leeds on January 13th, 1892. It originated in the Dark Arches, beneath the Midland and the joint London and North-Western and North-Eastern stations, a gruesome-looking place of tunnelled roadways and dingy warehouses, and murky water of canal and river. In the ten acres of darkness, in arch after arch, were stored wines and spirits, resin, tallow, and oil. The fire sprang into life in a great vaulted chamber by the canal-side, and spread till the joint station above was threatened with destruction, the flames sweeping over the fifteen sets of metals, and playing about the main lines of the Midland. The damage to railway property amounted to a quarter of a million.

A fire that caused considerable loss broke out at the Irwell goods yard, Salford, in one of the arches beneath the London and North-Western and Lancashire and Yorkshire main lines, soon after midnight on September 3rd, in the same year, and the fire, though twenty jets were played upon it, spread to three arches, all stored with lubricating oil. The heat was so intense that railway servants were obliged continually to drench the firemen with water to enable them to keep at their posts; and from the fear that the heat might undermine the railway no train was permitted on the line for seven hours.

CHAPTER XL.

RAILWAY DISASTERS.

1840—1870.

The Breakdown Train—Humorous Events—A Novel Cure—"The Coo's" Revenge—How Railway Accidents are Caused—Malice and Mischief—Jumping Waggons—The Whims of the Light Engine—The Phantom Hand on the Guard's Brake—Railway Accidents, 1840–1870.

On every railway of any note one train is always kept in readiness for speedy use, and yet it carries neither passengers nor goods, and its journeys, always made against time, are fortunately comparatively rare. The breakdown train is a curious-looking object beside the express that it may have to run after some day to succour. It is built for the roughest and most urgent work on the line, and is never heard of except in emergency and accident. Then is its opportunity; and the great clumsy train, with its powerful engine, tool vans, huge breakdown crane, its load of bars, shovels, screw-couplings, sets for severing shackles and bolts, its waggon filled with planks or packing, its riding-van crowded with workmen, and containing in its capacious cupboard a large assortment of fog signals, train lamps, and danger flags, becomes interesting as it dashes through station after station on its mission of help. There is a flutter all down the line when the news has flashed by that there has been an accident—that the night mail from Southampton has run into a goods

engine, that the midday express north has plunged down an embankment, that there has been a big smash owing to a faulty tire at Penistone, or that two trains have been crushed up at Doncaster.

A few railway accidents have had their humorous side. There is, for instance, plenty of humour in the remark of the collier who, walking along the line during the prosperous coal-trade time in 1874, was tossed down the embankment by a passing locomotive, and said, on being picked up, "If ar've damaged t' engine a'rm ready to pay for't!" And there was something grotesque in the sentiments of the lady who, travelling between Brookfield and Stamford on her first journey by rail, was pitched down an embankment, and, crawling from beneath the wreckage, asked a passenger, "Is this Stamford?" "No, madam," replied the man, who was pinned down by a piece of timber. "This is not Stamford: it is a catastrophe!" "Oh!" cried the lady; "then I hadn't oughter got off here!"

There are passengers who go through life so philosophically, or are of such sardonic vein, that they are indifferent to, or actually derive physical and mental benefit from, railway disaster. In one of Ouida's novels a railway smash is dramatically described; but the hero, who coolly continues playing whist amid the noise and wreckage, is simply annoyed at the accident because the trumps have been disturbed. In November, 1869, a gentleman wrote to the *Times* stating that while in Manchester "he was threatened with rheumatic fever,

and resolved to make a bold sortie, well wrapped up, for his home in town." He started, full of pain and misery, by the Midland afternoon train. It got into collision, and gave him such a shaking that his bodily vigour and elasticity returned to him, and he had not had ache, or sweat, or tremor since.

The irony of fate has often been illustrated by the erratic conduct of the cow on the railway. George Stephenson's prophecy, that in the event of a collision "it would be the worse for the coo," has not always been fulfilled. On the contrary, it is often the worse for the railway. The cow, during half a century of locomotive ruthlessness, has managed to get a fair proportion of revenge, one of the most notable instances of its malice being afforded on the South-Western Railway on September 9th, 1873, when a bullock, charging down the line near Guildford, wrecked the train, no fewer than three passengers being killed, and twelve injured.

The gang in the breakdown train do not, as a rule, come across many humorous incidents. It is a serious work they go to; and they see much that is painful and pitiful, though the sad and grim picture is often brightened by brave deed, by patient endurance, by devotion and self-sacrifice. The causes of railway accidents are legion. A cracked axle, a broken tire, a snapped coupling, an open point, a signalman's mistake, a waggon, a sleeper, or a bullock on the track, a fall of rock, a weak bridge, a give-way in tunnel, a flooded line, will cause disaster—

perhaps death; and occasionally serious accident is produced by a spirit of mischief, or worse still, by diabolical malice. A group of lads, mad with frolic, climb the embankment, thrust the points aside, the express dashes along the branch to some dead-head, and is wrecked. An old railway servant, discharged from the service of the company, nurses spite, walks along the line at night, "swarms" the signal-post, removes the lamp, and pitches it upon the sleepers.

On the Hull and Withernsea Railway a man drags a heavy chain across the line, and ties each end of the chain to a post, in the foolish belief that the barrier will stop the train. Near Basildon Bridge, on the Great Western Railway, three pieces of metal and

ACCIDENT TO THE CZAR'S TRAIN ON THE AZOV RAILWAY. (*Page* 405.)

three sleepers are placed on the line just before the London express and the ordinary train from Plymouth are timed to pass. The obstructions are thrown down at a point at which there is a steep embankment, and below the river Thames is in flood. To the malicious mind no better place could be chosen for a railway smash; but fortunately the heavy, broad-gauge trains that by-and-by come tearing along are not displaced. They dash over, or rather cut through, the loose rails and sleepers, and continue their journey in safety. The passengers, however, have been made decidedly uneasy by the ugly jerk, and wonder when the law will take a graver view of these offences, and become severe enough absolutely to stop such wholesale attempts at murder.

One of the most bewildering and unexpected causes of accident is the jumping of waggons. At Oxenholme, near Kendal, not long ago, the waggon of a luggage train jumped the rails and fouled the track of the express. The driver applied the brake, but a collision was inevitable, and the passengers, though they were unhurt, were considerably alarmed by the train's contact with the broken waggons, which ripped off footboards and handles, and crashed against the carriages ominously.

The light engine is another cause of accident. It is absolutely necessary to railway working; but it is a sort of Uhlan of the line, and the secret dread of the engine-driver, for he is never quite certain at what nasty curve

or awkward point it will turn up. Whether it is smoothly running or demurely standing he mistrusts it, for its movements, like those of a kicking donkey, are not to be foreseen. The light engine has a partiality for inclines, and puffs up them and gallops down them unweariedly. On Christmas Eve, 1890, the Lancashire and Yorkshire express, running into Leeds from Manchester, was surprised by one of these engines at Copley Hill Junction. The engine was on a steep incline. The express locomotive struck it, and away went the light engine at the rate of thirty miles an hour, ran into the Central Station at Leeds, dashed against the buffer stops, and bounded upon the arrival platform, filling the people who were waiting for friends travelling by the incoming express with dismay. Nor did the accident result merely in alarm. The tender of the light engine, which was running first, toppled over, fell upon a woman, and killed her instantaneously.

It is apparently hopeless to expect the light engine to abandon its reckless pastime of tilting against more dignified and respectable engines; still it does not always succeed in making great havoc. Its playful designs have been frustrated on the line by a mystic power, though whether by hypnotic touch or phantom hand it is impossible to declare. In a comparatively recent accident at Waterloo Station, in London, a passenger train was run into by a light engine, and considerable damage was done to the rolling stock and the permanent way; but

the accident would have been much more serious except for a remarkable incident that stands conspicuously alone even in the varied romance of the line. The ghost perhaps of some old engine-driver, familiar with the vices of that particular light engine, applied the break to the passenger train, and reduced the collision force almost to a minimum. The story sounds ludicrous, but it is vouched for by Major Marindin, who says:

"The passenger train pulled up very sharply by the application of the automatic vacuum brake but, curious to say, no one can tell how this brake was applied. Neither the driver nor the guards did so, and no brake pipe was severed, so that it was not automatically applied; but the valve in the rear guard's van flew open and the brake went on the gauges on the engine and in the vans, showing a reduction of the vacuum to 12 in. in the one case and to zero in the other. There were two brake carriages in the centre of the train without guards in the brake compartments, and it is possible that some passenger had got into one of these compartments and that he applied the brake, but it is not known that such was the case. It may be that the valve on the guard's van was jerked open by the shock of the collision and that the brake was thus applied, but I have never before heard of such a thing happening."

At Kibworth, near Leicester, a curious incident occurred on October 9th, 1880. The driver of the Scotch express, thinking his engine ran in a peculiar fashion, stopped her, made a careful examination of the gear, and found she was all right. On re-starting he somehow reversed the engine. Neither himself nor the fireman noticed that the train was backing instead of going forward, till it crashed into

a mineral train. Two Pullman cars were shattered and five passengers injured.

The accident to the Czar's train on October 29, 1888, caused a flutter in the Imperial Court, and sadness in many a home. When the train was approaching Borki Station, it ran, owing to the bad state of the line, down an incline, and was completely wrecked, one of the engines, decorated with foliage and flowers, making a bright but odd picture of colour amid the mass of broken woodwork. The Czar, Czarina, and children escaped; but several of the Emperor's attendants, six soldiers, and five railway servants were killed.

A locomotive, like fire, is "a good servant, but a bad master." In one respect it resembles Mazeppa's steed. It is a very awkward thing to ride uncontrolled. Now and then, like some men, it wearies of the straight road, and runs down an embankment, or leaps a bridge, or plunges into a river to wreck and ruin. But there are comparatively few instances of a locomotive becoming so utterly abandoned as the engine on the Furness Railway, which, on September 22nd, 1892, disappeared altogether. Between Lindal and Ulverston part of an embankment subsided. The driver of a goods train noticed the ballast slipping away from the rails and the ground yielding, and quickly jumped off the footplate. Almost immediately the engine broke through the rails, and plunged funnel downward into a big gap. The tender, which was only slightly embedded, was rescued; and a vigorous effort was made to drag the locomotive out of its awkward

position, but in vain. It was determined, apparently at any sacrifice, to escape further toil, and sank lower and lower, finally crashing into the depths of an ironstone mine, where it will probably remain till it is raked up by the geologist or archæologist of some future age.

There have been nearly three hundred serious

ACCIDENT ON A SOUTH-EASTERN BRIDGE IN 1846. (*Page* 408.)

accidents on "Our Railways" since Mr. W. Huskisson, M.P., was killed at the opening of the Liverpool and Manchester Railway, and among them the following are memorable:—

1840.

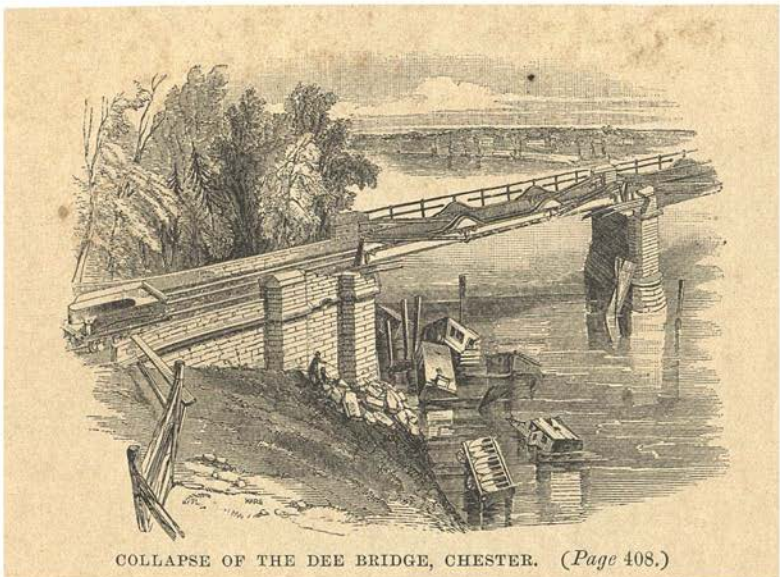
HOWDEN, August 7.

At Howden Station, on the Hull and Selby Railway, five passengers were killed by a large iron casting that fell from one of the trucks. The jury gave a verdict of accidental death, "but laid a deodand of £500 on the engine and carriages."

1841.

SONNINGHILL, December 24.

On this day an engine was thrown off the line by a fall of earth in Sonninghill Cutting, near Reading.



COLLAPSE OF THE DEE BRIDGE, CHESTER. (*Page* 408.)

Eight persons were killed, and seventeen injured, chiefly workmen employed in the erection of the new Houses of Parliament.

1845.

MASBOROUGH, October 20.

The mail train broke down during a fog on the Midland Railway at Masborough, and while it was disabled a special engine ran into it, killing two persons and injuring others.

1846.

MEDWAY TRIBUTARY, January 20.

An extraordinary accident occurred on the South-Eastern Railway on the above date. A bridge, spanning a tributary of the river Medway, between Tunbridge and Penshurst stations, collapsed soon after midnight, through press of flood-water; and the engine, tender, and several waggons of the up goods train crashed through the broken woodwork into the river. The driver was dreadfully injured, and died soon after reaching the bank, to which he was dragged by the stoker, who had bravely brought him through the torrent.

1847.

DEE BRIDGE, May 24.

An accident happened to a train crossing Dee Bridge, on the Chester and Shrewsbury Railway. The iron girders of the third arch suddenly collapsed. The engine and tender safely cleared the gap, but the carriages fell into the river. Five persons lost their lives, and the rest of the passengers were injured, with the exception of one man, who, full of resource and daring, sprang from a carriage window and coolly swam ashore.

WOLVERTON, June 5.

A collision occurred at Wolverton, on the London and North-Western line, killing seven passengers and injuring many others. The Liverpool mail was signalled into the station, but veered off into a siding

and ran into a luggage train. The accident was caused by the pointsman's forgetfulness, and he was sentenced to two years' imprisonment.

1848.

SHRIVENHAM, May 10.

At Shrivenham, on the Great Western Railway, a cattle-truck fouled the track of the Exeter express, and seven persons were killed.

1850.

COWLAIRS, August 1.

An excursion train, taking holiday folks from Perth to an agricultural show at Glasgow, was divided at Cowlairs. While the first part was standing in a tunnel the latter portion dashed into it, demolishing two passenger "trucks," and killing five people.

1851.

FRODSHAM, April 30.

A train broke down in Frodsham Tunnel, on the Chester and Warrington Junction Railway, causing three collisions, by which six passengers were killed.

BICESTER, September 6.

At Bicester Station, on the Buckinghamshire line, an engine ran off the rails. Three carriages were overturned, and six persons killed.

1852.

BURNLEY, July 12.

An excursion train of Sunday-school children was

driven, through a pointsman's mistake, on the wrong track into the station, and dashed against the buffers in the bridge wall, one teacher and three scholars being killed.

1853.

OXFORD, January 3.

A singular accident occurred outside Oxford Station. Owing to the partial collapse of Wolvercote Tunnel, only the up-line could be used for traffic. The signalman showed a wrong light to the driver of a passenger train, which dashed into a coal train that was coming down the same line. The effect of the collision was remarkable. The passenger engine was turned completely round, and pitched into a ditch. The first engine of the coal train mounted it, and the second mineral engine also plunged into the dyke. Two carriages were shattered, two engine-drivers, three stokers, and two passengers killed, and many persons injured.

DIXENFOLD, March 4.

The driving-wheel of an express engine, running at the rate of forty-five miles an hour, broke near Dixenfold, on the Lancashire and Yorkshire Railway. The locomotive was hurled across the line, three carriages were wrecked, and five passengers and the driver were killed.

STRAFFAN, October 5.

The express from Cork broke down at Straffan, on the Great Southern and Western Railway of Ireland. The driver and stoker ran back waving danger signals,

but a goods train, the driver of which did not see or ignored the warning, crashed into the standing express. Thirteen passengers were killed, and many injured, three so seriously that they died soon afterwards.

1856.

DUNKITT, November 19.

At Dunkitt, on the Waterford and Kilkenny line, a mail train from Dublin ran into several ballast waggons, the siding-points having been thoughtlessly left open. The workmen, seeing the mail's approach, strove desperately to climb a steep embankment, but fell on the line in the train's track, and seven were cut to pieces. Many of the passengers in the mail were seriously injured.

1857.

LEWISHAM, June 28.

A train at Lewisham Station, on the North Kent Railway, drawn up in obedience to a danger signal, was run into by another train. The guard's van and a carriage of the standing train were smashed, and eleven persons killed. The shareholders were heavily hit, after this accident, by successful actions for compensation.

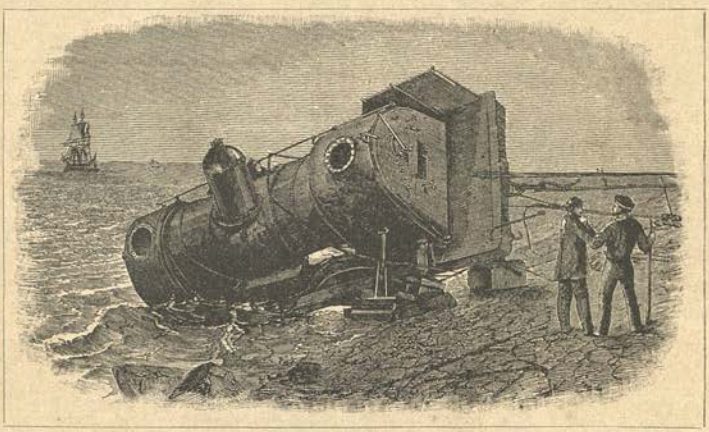
NEWARK, September 24.

The express from Manchester to London, on the Great Northern line, left the rails when crossing the viaduct over the Newark and Tuxford highway, and five passengers were killed.

1858.

ROUND OAK, August 23.

An excursion train, crowded with Sunday-school children, was sent, in two sections for safety, along the Worcester and Wolverhampton line. At Round Oak



THE ACCIDENT AT GRANTON.

Station one of the couplings in the first section of the train broke. A number of carriages moved quickly backward down an incline, and smashed in the front portion of the second section of the train. Fourteen persons were killed, and some of the bodies were dreadfully mangled amid the wreckage.

1860.

TOTTENHAM, February 20.

An engine-wheel broke at Tottenham Station, on the Eastern Counties Railway, and the train ran off the line. Altogether seven deaths resulted from the

accident, among the killed being the driver and stoker. "The deceased," the coroner's jury recorded, "met with their deaths from the breaking of the tire of one of the leading wheels of the engine, in consequence of the

THE ACCIDENT AT KENTISH TOWN. (*Page* 414.)

defective weld; and had proper caution and vigilance been used, the same might have been detected."

GRANTON, July 8.

On July 8, 1860, a singular accident occurred on the Edinburgh, Perth and Dundee Railway near Granton. An engine, after doing duty, was returning to the locomotive station at Edinburgh, when it dashed over the embankment at Wardie Cottages into the sea. The engine driver, his son, brother-in-law, and pointsman were killed; but a porter, who was also riding on the engine, escaped death, though he was severely scalded.

HELMSHORE, September 4.

Two excursion trains were in collision at Helmshore, on the Lancashire and Yorkshire Railway, and eleven passengers were killed, and many injured.

ATHERSTONE, November 16.

The mail train and a cattle train were in collision on the London and North-Western at Atherstone, ten persons being killed, including the mail fireman.

1861.

CLAYTON TUNNEL, August 25.

A collision took place in Clayton Tunnel, on the London and Brighton Railway, when twenty-three persons were killed, and one hundred and seventy-six injured. The driver of an excursion train, seeing a hand danger-signal, backed his train. The signalman then passed the words "line clear" to a parliamentary train, which crashed into the rear of the excursion train. The sufferings of the injured were intensified by the steam that escaped from the boiler.

KENTISH TOWN, September 2.

A collision occurred at Kentish Town, on the Hampstead Junction line, between a railway servants' excursion train and some ballast waggons, sixteen persons being killed and twenty seriously injured.

1862.

WINCHBURG, October 13.

A pointsman at Winchburg, on the Edinburgh and Glasgow Railway, sent a train from the west along a single line in use during the repair of the track. The

fast train from Edinburgh met it, and the collision was fearful in its results. Both engines were shattered, two carriages were smashed to bits, and other carriages were piled high above the wreckage. The accident took place at night, in a deep stone cutting, and the darkness, and the difficulty of extrication in this ravine-like part of the line, added to the terrors of the disaster. No fewer than fifteen passengers were killed, and one hundred injured.

1863.

STREATHAM, May 30.

At Streatham, on the London and Brighton Railway, a locomotive boiler exploded, the driver subjecting it to very high pressure. The greater part of the train was dragged down an embankment, four persons were killed and thirty injured, the latter being chiefly Grenadier Guards returning from drill.

LYNN, August 3.

Part of a train overturned near Lynn, on the Lynn and Hunstanton Railway, owing to a bullock getting on the track. Five people were killed, one of the passengers being so dreadfully crushed that it was difficult to identify him.

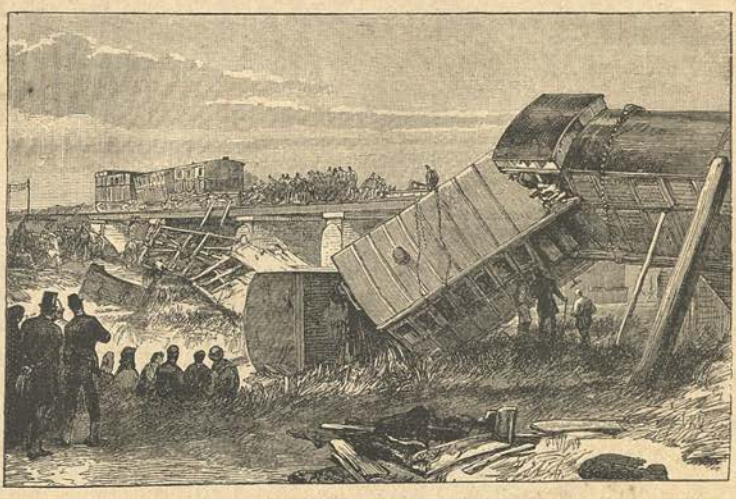
1864.

EGHAM, June 7.

A collision occurred at Egham, on the South-Western Railway. Four persons were killed and twenty-five injured. They were chiefly excursionists to Ascot races.

BLACKHEATH TUNNEL, December 16.

A fast train collided with a ballast train in the Blackheath Tunnel, and six persons were killed. Of



THE ACCIDENT AT STAPLEHURST.

these five were platelayers, who were flung out of the ballast train.

1865.

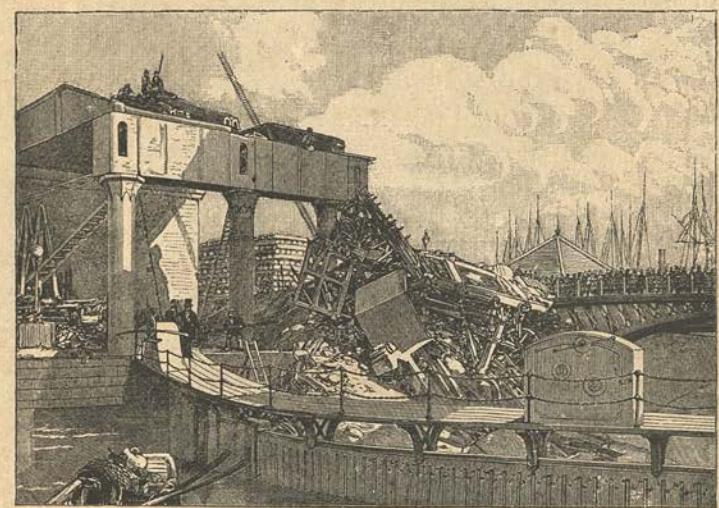
REDNAL, June 7.

A train, owing to insufficient brake power, ran off the rails near Rednal, on the Shrewsbury and Chester Railway. Seven persons were killed and forty injured.

STAPLEHURST, June 9.

The tidal train, running from Folkestone, with over one hundred passengers, ran safely for thirty miles to Staplehurst, when it met with a curious disaster. Crossing the bridge over a stream, the

train ran into a gap made for the purpose of repairing the line. Through the opening eight carriages fell into the river's bed, and were crushed into one mass of shattered woodwork. Ten passengers were killed or drowned, and many others were fearfully injured.



THE ACCIDENT AT SWANSEA. (*Page* 418.)

Charles Dickens was a passenger by this train, but fortunately occupied one of the carriages that kept the rails. In the second volume of "The Life of Charles Dickens," by Mr. John Forster, there is this reference to the accident: "Saturday, June 10, 1865. I was in the terrific Staplehurst accident yesterday, and worked for hours among the dying and the dead. I was in the carriage that did not go over, but went off the line, and hung over the bridge in an inexplicable manner. No words can describe the

scene." In his postscript to "Our Mutual Friend," the novelist makes humorous allusion to the narrow escape of his MSS. in the disaster, saying, "Mr. and Mrs. Boffin (in their manuscript dress of receiving Mr. and Mrs. Lammle at breakfast) were on the South-Eastern Railway with me in a terribly destructive accident. When I had done what I could to help others, I climbed back into my carriage—nearly turned over the viaduct, and caught aslant upon the turn — to extricate the worthy couple. They were much soiled, but otherwise unhurt. The same happy result attended Miss Bella Wilfer on her wedding day, and Mr. Riderhood inspecting Bradley Headstone's red handkerchief as he lay asleep. I remember with devout thankfulness that I can never be much nearer parting company with my readers than I was then."

SWANSEA, November 29.

The section of a telescope bridge near the Swansea terminus of the Vale of Neath Railway had not been closed after the passage of a vessel; but the signalman, in forgetfulness, sent message "line clear." A coal train came on, plunged into the lock of the North Dock, and the driver and stoker were killed.

1867.

WALTON JUNCTION, June 29.

A passenger train, through a pointsman's error, collided with a coal train at Walton Junction, near Warrington, on the London and North-Western, and seven persons were killed. The passenger engine plunged inside the guard's van and stuck fast in it.

TRAIN ON FIRE AT ABINGDON, ON THE CALEDONIAN. (*Page* 420.)

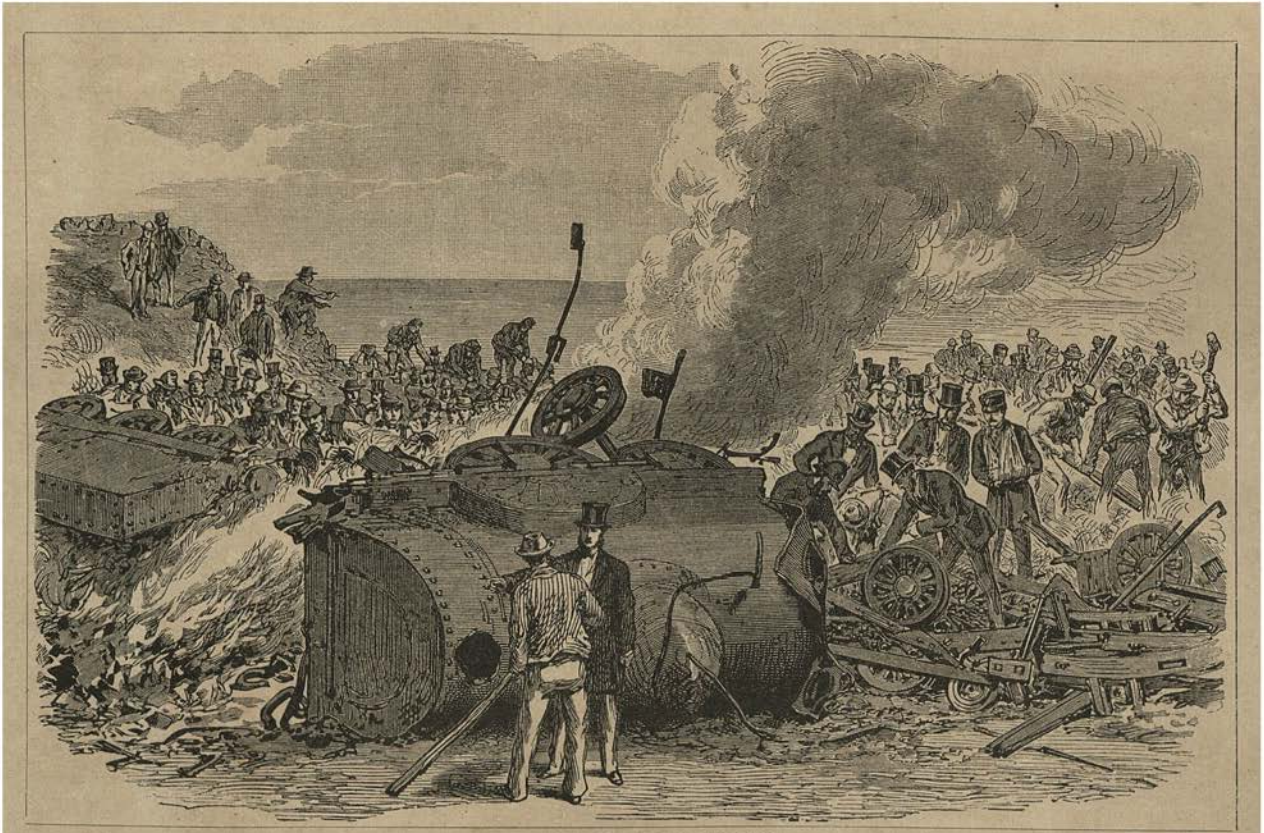
ABINGDON (CALEDONIAN) October 14.

A goods train, laden with inflammable material, got on fire as it was running between Elvanfoot and Abingdon on the Caledonian Railway. The mail express from Stirling dashed into it; but the driver, seeing the peril ahead, had applied the brake, and the collision was more alarming than disastrous, the engines only being thrown off the rails. A shift of the wind, however, would have set the express on fire; and even the most courageous passengers deemed it advisable to climb the embankments, which presented a strange scene of hurrying figures in the fierce light and deep shadow.

1868.

THE ABERGELE DISASTER, August 20.

The disaster at Abergele stands out conspicuously in English railway history, not only because of its extent, but because of the piteous helplessness of its victims. The accident bore some resemblance to the one at Versailles. The Irish limited mail started from Euston at a quarter past seven o'clock in the morning, as it had done with almost invariable punctuality for eight years. The run to Chester was safely accomplished, and the train, after attaching some local carriages, started out on the North Wales track on its eighty-five mile run to Holyhead. Near Abergele the mail had got into full swing, and was making high speed on what the driver believed was a clear track, when it crashed into some trucks. A man sitting on a rail by the line side, and smoking his pipe reflectively, saw the waggons come down the



THE ABERGELE DISASTER.

incline. They were oil-laden, and should have been shunted at Llandulas, but the siding would not take the entire goods train. The driver and brakesmen knew the time the mail was due, and, aware that they had not the regulation ten minutes for making up the train aright, in the hurry of the operation they gave too much speed to the kick-off trucks, and these, knocking against the paraffin-laden waggons, impelled them on to the main line. Arthur Thompson, the driver of the mail, did not notice the obstruction till his train was almost on it. He had just time to give a warning signal, shout to his mate, and leap off the footplate, when the crash came. A hiss of steam, a cloud of smoke, and a loud noise heralded the disaster. The mail engine, dashing into the trucks, broke many of the oil barrels in pieces, and drove on through the wreckage till it was disabled, and three carriages were thrown across the line. Seventeen hundred gallons of paraffin were liberated by the force of the collision, and the fore part of the train, as by a lightning flash, was wrapped in flame.

The train consisted of thirteen carriages. Next to the front guard's van was a composite carriage, then two first-class carriages, a second-class carriage, the travelling post office, the mail tender, a parcel van, a first-class carriage, three composite carriages, and a guard's van in the rear. The guard's van next the engine and all the carriages down to the post office were consumed. So quick and intense was the heat that scarcely a cry was heard, or a struggle

noticed, in the doomed carriages, about which the fire leapt. No fewer than thirty-three persons lost their lives; and of these, twenty-eight were burned to death, some of the remains being so thoroughly charred that it was impossible to identify them. Lord and Lady Farnham were among the victims; but the Duchess of Abercorn, who, with her family, occupied a carriage near the end of the train, escaped injury.

One passenger, who crept out of the carriage window after the collision, said he saw a sight never to be forgotten. With the violence of the concussion some of the petroleum barrels had been thrown on the embankment, and others rolled under the carriages, but all exploded together. The engine, the coaches, and the luggage van were enveloped in fire. When a portion of the train had been pushed away from the burning mass, there were among the broken timbers and the hot ironwork smoking skeletons, all that was left of men, and women, and children, and they moved horribly along with the wreck.

A curious story was told by Catherine Dickens, a platelayer's wife. When the accident occurred she ran on the line from her cottage, and, going to one of the carriages towards which the fire was leaping, urged a lady to throw her child out, and she held up her frock to catch the little one; but the mother to whom she pleaded seemed indifferent, and declined her help. The story was discredited, though the platelayer's wife adhered to her tale, and said the carriage

handle was so hot when she first sought the child's safety that she instantly relinquished her grasp.

The heat around the train was unbearable, the vapour from the unconsumed oil suffocating, and the flame of the paraffin terrible in its devastation. An expert said the awful stillness which characterised the occupants of the leading carriages was due to the shock caused by the sudden exposure of the entire body to fire. No one, at all events in the fore part of the train, seems to have made any very determined attempt to escape. The passengers, as they sat at ease, perhaps admiring the landscape, or looking out across the pebbly beach to the sea, or reading, or sewing, or anticipating, in thought and chat, a pleasant voyage across the Irish Channel, gave one startled cry, and then, by anæsthesia or asphyxia, were deprived of sensation. The salvage taken from the wreckage was remarkable. In the heap of human dust, diamonds, rubies, opals, and emeralds were found. The furnace fire had robbed them of their settings, of their gold and filigree; but they sparkled, and glittered, and gleamed impervious to the heat amid their ghastly surroundings. Twenty-four watches were picked out of the ashes; and strewn about the line were the remnants of bracelets, brooches, rings, smelling-bottles, scissors, and many half-calcined ornaments.

The inquiry concerning the disaster lasted many days. The jury found that most of the victims died from suffocation before the fire touched them; they suggested a drastic reform in shunting operations;

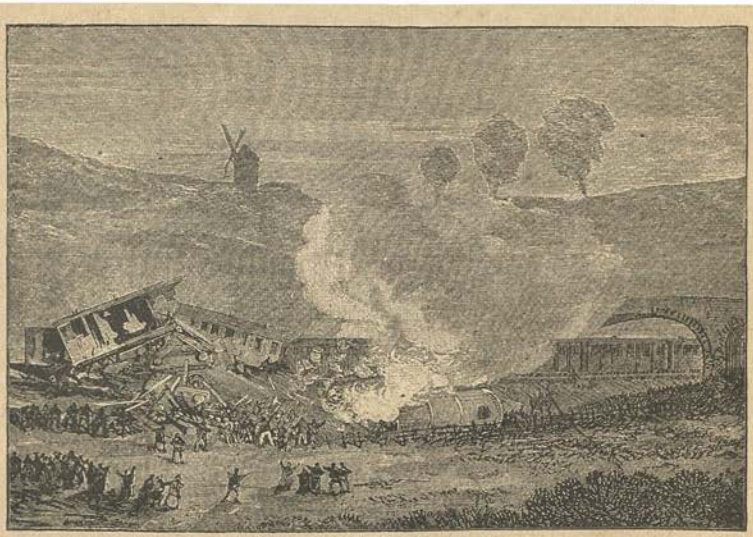
they censured the Llandulas stationmaster, and found the brakesmen in charge of the goods waggons guilty of manslaughter—but at the assizes these men were acquitted. Colonel Rich, in his report of the disaster, pointed out the unwisdom of locking the carriage doors, strongly condemned passengers for their thoughtlessness in treating railway officials, and, making sarcastic reference to the management of the line, said:

"I fear that it is only too true that the rules printed and issued by railway companies to their servants, and which are generally very good, are made principally with the object of being produced when accidents happen from the breach of them, and that the companies allow many of them to be broken daily, without taking the slightest notice of the disobedience."

The accident caused a profound sensation throughout the country, and comment upon it was continually revived, particularly when the mail engine-driver died from his injuries, and when the brakesmen were put on their trial. The railway company revised their instructions, and set about making better siding accommodation; but the travelling public were not easily pacified. The taunt was thrown out that the directors ought to make a siding all the way from Chester to Bangor, and there was an emphatic demand that passenger and goods trains should run on different sets of metals, "that the two services should be separate, and conducted on lines of their own."

The passenger, quitting the bustle and noise of the enlarged station at Chester, on his leisurely way by the sand-banked Dee, and quaint Flint, and

thriving Rhyl, to some more remote Welsh watering-place, seldom thinks as he goes along the line that nurses the shore, looking out of the carriage window at the pastoral and wooded beauty of Abergele, that beyond the shadowed roadway, in the graveyard, by



THE ACCIDENT AT NEWARK. (*Page* 429.)

the village, lie the remains of those who on this memorable day had their life's journey so abruptly checked. In the summer of 1893 the author, visiting Abergele, found that the railway accident of a quarter of a century ago was the talk of the village still. The disaster is the great historic event of the locality. It is a grim calendar in the records of the place. This villager died about a year before the railway smash; that woman was married three years after it. Nearly everything is reckoned from the day the

Irish mail was wrecked and partially destroyed by fire. "Would you like to see the grave, sir?" said the old verger, who was full of reminiscences of the dread time. It was on the far side of the churchyard, near the tomb of the men who were cast ashore after the burning of the emigrant ship *Ocean Monarch* in the bay in 1848. A large granite monument marks the spot where the victims of the railway disaster are buried, and it bears an inscription "sacred to the memory" of the thirty-three persons who perished:—

The Right Hon. Henry Lord Farnham.
The Lady Farnham.
The Rev. Sir Nicholas Chinnery, Bart.
The Lady Chinnery.
Judge Berwick.
Elizabeth Mary Berwick.
John Harrison Aylmer.
Rosanna Louisa Aylmer.
Arthur Fitzgerald H. Aylmer.
Rosalie Franks.
Kate Sophia Askin.
Fanny Sophia Thornburgh Askin.
Charles Cripps.
Capt. J. Priestly Edwards.
Priestly Augustus Edwards.
E. Lovell Farrell.
Joseph Holmes.
Jane Ingram.
Mary Ann Kellett.
Caroline Simcox Lea.
Augustus Simcox Lea.
William Townsend Lund.
W. Henry Owen.
Edward Suten.
W. Bradley Parkinson.
Christopher Slater Parkinson.
Mary Annie Roe.
Whitmore Scovell.
Kathleen Scovell.
William Smith.
Caroline Stearn.
Elizabeth Strafford.
Louisa Symes.

1869.

LONG EATON, October 9.

A collision occurred on the Midland Railway, at Long Eaton Junction, between the mail and two excursion trains on their way from Nottingham Goose

Fair, "a great holiday-time in the lacemaking town." The express dashed into one set of carriages, "there to be run into because the driver was afraid he would otherwise run down another excursion train in front, detained on its journey because it had already run down a luggage train." In this remarkable jumble of rolling-stock nine passengers were killed, and eleven seriously injured.

1870.

NEWARK, June 20.

This was an unusually disastrous collision. Soon after midnight an axle in the Manchester goods train broke, and several waggons were flung off the line. An excursion train from London dashed into the obstruction, and eighteen passengers were killed.

CARLISLE, July 10.

At the Citadel Station, Carlisle, a collision occurred between a goods train and the London mail at the point at which the North-Eastern crossed the Lancaster and Carlisle track. The signals at the crossing needed careful watching; but the regular driver of the goods train was temporarily absent, and the fireman, who was characterised at the inquest as "reckless and incompetent," took little heed of the instruction that he must keep his mind entirely fixed on his duty. He ran his train into the mail, killing five passengers and injuring twenty.

TAMWORTH, September 14.

At four o'clock in the morning, at Tamworth,

on the London and North-Western, the Irish mail, arriving late, was sent into a siding, owing to a pointsman's mistake, and, smashing through a buttress, dashed into the river Anker. Three persons, including the driver, were killed.

HARROW, November 26.

The Liverpool and Manchester express ran into some coal waggons on the London and North-Western Railway at Harrow, and seven persons, including the driver, were killed.

BROCKLEY WHINS, December 6.

A collision occurred between the Sunderland express and a coal train at Brockley Whins, on the North-Eastern Railway, through a pointsman's error, resulting in the death of four passengers and a guard.

BARNSLEY, December 12.

A collision was caused by a number of goods waggons breaking away on the Sheffield Company's line, and crashing into a passenger train at Stairfoot Station. Fourteen persons were killed and a large number injured.

HATFIELD, December 26.

The tire of a wheel broke on a train at Bell Bar, near Hatfield, on the Great Northern Railway. The guard's brake and several carriages were overturned, eight persons being killed, including two women who happened to be crossing the line. The tire was reported by experts to be sound; but the severe weather had made the material brittle.

CHAPTER XLI.

RAILWAY DISASTERS (*continued*).

1872—1893.

The Risk of Travel—Comforting the Passenger—Recent Disasters—Sleep and Signals—Memorable Accidents, 1872—1893.

THE railway traveller is occasionally comforted by the statement that "nearly as many people are killed in the streets of London every fortnight as there are passengers killed on all the railways in Great Britain in a year from causes beyond their own control." It is a comparison that reminds one of Mr. Labouchere's in his "Diary of the Besieged Resident," in which he says that there was less danger in the streets of Paris during the bombardment by the German army than in crossing the crowded Strand. Sir Edward Watkin, always emphatic in his championship of railways, once remarked: "I have proved that railway travelling is safer than walking, riding, driving, than going up and down stairs, than watching agricultural machinery, and even safer than eating, because it is a fact that more people choke themselves in England than are killed on all the railways of the United Kingdom." Discussion on the question whether it is safer to ride by rail or on horseback, or whether it is more desirable to be killed by a six-course dinner or the shock of collision, would be unprofitable, inasmuch as there is a great variety of

taste in the English character. But it must be asserted that railway accidents are too frequent.

It is hardly necessary, as was the case in 1873, for the Board of Trade to issue a circular to the railway companies, pointing out that "the great proportion of accidents during the year had arisen through causes entirely within their own control;" still, the record of mishap during the past few years is not quite so entertaining as Sir Edward Watkin would make it, including, as it does, the big Penistone accident, the disaster at Doncaster, and the collision at Thirsk. In 1887 the railway traveller was congratulated on the fact that, with the exception of the lives lost by the collision at Hexthorpe on the St. Leger day, not a single passenger was killed by accident to rolling-stock; but in 1892, in addition to the crash at Manor House Cabin, it was necessary to chronicle the collision at Bishopsgate, the singular accident on the railway approach to Birmingham, and the wreck of a train at Esholt. "Sleep and signals" were chiefly responsible for these casualties, in which twenty-one passengers were killed. Those who travel by rail may derive some consolation from the fact that all the railway companies, zealous of their reputation, are, by a better system of relief, guarding against the slumber of men on duty, and by improvements in signalling apparatus, working, and regulation, endeavouring to lessen the peril of journeying. The following are the most notable accidents that have occurred within the past twenty years:—

1872.

CLIFTON, August 3.

At Clifton Junction, on the Lancashire and Yorkshire Railway, a collision occurred between an express and a goods train, and five persons were killed and some others injured.

KIRTLEBRIDGE, October 2.

A disastrous collision occurred at Kirtlebridge, on the Caledonian Railway. The Scotch express for London ran into a number of shunting waggons Three carriages were broken into fragments, and eleven passengers killed. Captain Tyler said the driver, fireman, and guard of the passenger train had done their duty. The accident was caused by the moving of certain points not interlocked with signals; it was due in the first place to the stationmaster's forgetfulness. The stationmaster and the pointsman were arrested, and tried for manslaughter; but the jury took a merciful view of the case, and the men were acquitted.

1873.

WIGAN, August 2.

The tourist train from Euston to Scotland, filled chiefly with sportsmen and their friends going north, met with a fearful disaster at Wigan. On nearing the station at a speed of nearly forty miles an hour, seven carriages, fouling at the facing points, broke from the rest of the train, and dashed into a siding. Three carriages mounted the platform and overturned, one

THE ACCIDENT AT WIGAN

being flung actually upside down; and a fourth carriage travelled over a wall into a foundry yard, taking a lady passenger with it in its strange journey. Several carriages were smashed to pieces, ten persons killed and thirty injured.

1874.

Manuel Junction, January 27.

A dreadful accident occurred on this day near Manuel Junction, on the North British Railway. The London express, running at high speed, crashed into a shunting mineral train. The two trains were forced into a rugged mass of broken wood and twisted iron. The havoc was piteous. Fourteen passengers and two firemen were killed. Many of the travellers were severely injured; but some, though completely buried beneath the wreckage, and held for a long time in bondage by displaced tires and timber, were rescued unscathed.

The Thorpe Collision, September 10.

The Thorpe accident, one of the most conspicuous in railway history, occurred on this night. The Great Yarmouth mail, joined at Reedham by a train from Lowestoft, ran to Brundall. Beyond this point the line was only a single one, and the united train should have waited for the Norwich express to pass. But the Great Yarmouth train was permitted to go on the single line before the express had cleared. The two trains met with a terrific crash on a curve at Thorpe, and a pyramid was formed of the locomotives and

shattered carriages, among which lay the wounded, dead, or dying passengers. No fewer than twenty-five persons, including drivers and firemen, were killed, and fifty injured. The accident was due to an error in telegraphing, an error that was discovered before the trains actually met; but the ominous reply was "Mail train gone!" and at Norwich there was dismay, and then hurried preparation made to help and succour the passengers in the inevitable disaster.

SHIPTON, December 24.

Festivity does not always reign supreme at Christmas. Calamity, fierce and relentless, now and then dashes it in pieces. A grievous example of the pitilessness of fate was seen on the Great Western Railway at Shipton-on-Cherwell, near Oxford, on Christmas Eve, 1874. When the express from Paddington, which was crowded with people on their way to join country house-parties, or to indulge in Christmas pleasure in a humbler fashion in crowded town or by cottage fireside, reached this village, the tire of one of the carriage wheels broke. The carriage lurched, and the coupling-chain snapped. The train was running at a speed of forty miles an hour, and the coaches at the rear of the fractured coupling, set suddenly free, swayed for a moment on the line, and then toppled some down one side and some down the other side of a steep embankment. One vehicle, knocking away the stone parapet of the canal bridge, plunged a wreck into the water; and two others, turned

completely upside down, were crushed into splinters on the slope. No fewer than thirty-four persons were killed and seventy injured.

1875.

KILDWICK, August 27.

The Scotch express, on the Midland Railway, ran into an excursion train at Kildwick, near Skipton. Seven passengers were killed and forty injured. The excursion train had been detained for the lighting of the tail lamps.

1876.

ABBOTS RIPTON, January 21.

In the well-remembered disaster on the Great Northern, at Abbots Ripton, six miles north of Huntingdon, the Scotch express ran into a shunting mineral train, and the Leeds express from London, seeing no danger signal on running through Huntingdon, dashed into the wreckage. The accidents occurred during a snowstorm; and the havoc was fearful. Fourteen persons were killed, and many injured. Amongst the dead were Mr. Boucicault, the son of Mr. Dion Boucicault, the dramatist, and Mr. Herbert Noble, the sculptor's son. Count Schouvaloff, the Russian Ambassador, was a passenger, and, like Charles Dickens in another railway accident, had the rare opportunity of seeing a big railway smash without injury to himself. The failure of the block system in emergency was, in the jury's opinion, the cause of the accident, and the directors of the Great Northern were urged to work their mineral traffic on a special line.

RADSTOCK, August 7.

At midnight a terrible collision occurred on a single line of the Somerset and Dorset Railway, near Radstock, between an excursion train and a special train which was returning from a regatta at Bath. Fifteen persons were killed and no fewer than one hundred injured.

ARLESEY, December 23.

A goods train was delayed at Arlesey siding, near Hitchin, on the Great Northern Railway, owing to a breakdown. The signals were at danger, but the driver of the Manchester express did not notice them, and dashed into the luggage train, cutting his way through it, but at fearful sacrifice. Five persons were killed, including three ladies, and thirty passengers were injured. The driver lost his life through his own carelessness.

1877.

MORPETH, March 25.

The night express running on the North-Eastern Railway from Edinburgh to London got off the rails at Morpeth, and tore up the permanent way for a considerable distance. The vehicles were crushed back on each other, and five passengers were killed, including Mr. James Donald, the editor of Chambers's *Etymological Dictionary*.

1878.

SITTINGBOURNE, August 31.

An excursion train from Ramsgate, travelling at the rate of forty miles an hour, crashed into a number of

waggons that had been slipped on to the main line at Sittingbourne Station, on the London, Chatham and Dover Railway, and six persons were killed and forty injured.

PONTYPRIDD, October 19.

A collision took place near Pontypridd Junction, on the Taff Vale Railway, through a mistake in signalling. Two passenger trains crashed into each other at the bend, and thirteen persons were killed and forty injured.

1880.

BURSCOUGH, January 14.

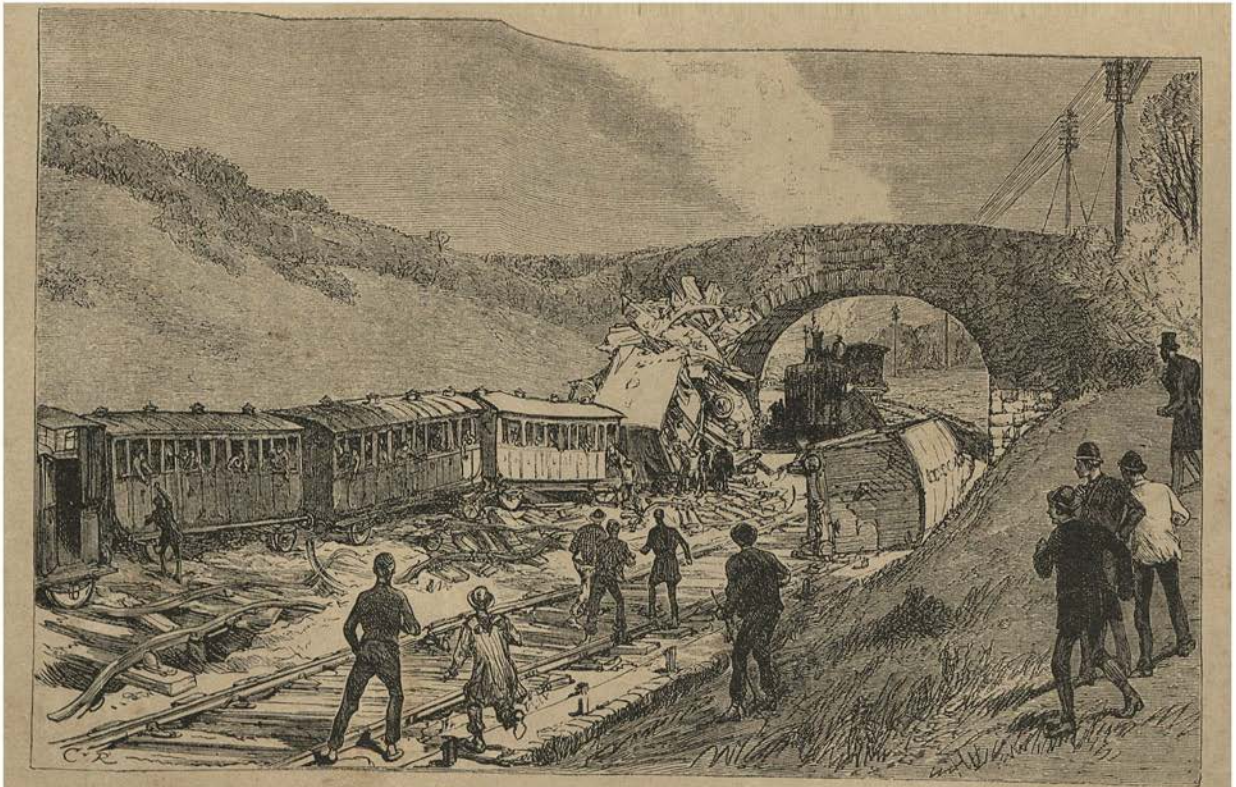
Through a signalman's error a collision occurred on Brickfield siding, near Burscough Junction, on the Lancashire and Yorkshire Railway, and seven persons were killed and thirty injured.

WENNINGTON, August 11.

A Midland train went off the rails while rounding a curve at Wennington Junction, near Skipton, and seven passengers were killed and twenty injured. On the previous day the "Flying Scotsman" ran off the rails in a similar fashion at Marshall's Meadows, near Berwick, and the driver, stoker, and one passenger were killed.

PAISLEY and NINE ELMS, September 8 and 11.

September, 1880, was a month particularly crowded with railway accident and incident. On the 8th a fast train from Glasgow to Greenock ran into a mineral train near Paisley on the joint line, and five passengers and the guard were killed. The signalman had been on duty



THE ACCIDENT AT WENNINGTON.

ten hours, and, forgetful or weary, placed the mineral train on the wrong track. On the 11th, at Nine Elms Station, on the London and South-Western Railway, while a locomotive was standing on the main down line, the night train from Waterloo to Hampton Court was signalled forward, and dashed into the motionless engine. Both engines were flung off the track, one or two carriages demolished, three passengers and the fireman killed, and thirty persons injured.

1881.

BLACKBURN, August 8.

At Blackburn, on the Lancashire and Yorkshire Railway, a collision occurred between two expresses, one from Manchester, and the other from Liverpool, five persons being killed and forty injured.

CANONBURY, December 10.

At Canonbury Junction, on the North London Railway, an astounding series of collisions occurred on the above date. Two trains pitched into each other in the tunnel. They were run into by a third train, and a fourth train dashed into the disabled mass. Five persons were killed and many injured.

1882.

FAIRFIELD ROAD BRIDGE, January 28.

By the collision of a passenger train with some broken-down coal trucks on the North London Railway, near Fairfield Road Bridge, five passengers were killed.

AUCHERLESS, November 27.

A mixed passenger and goods train was wrecked by the fall of a bridge over the Turiff turnpike road, near

AFTER THE COLLISIONS AT CANONBURY.

Aucherless, on the Macduff section of the Great North of Scotland Railway, and five persons were killed.

1883.

LOCKERBIE, May 14.

The Scotch express was wrecked in peculiar circumstances at Lockerbie Junction, on the Caledonian Railway. While the Stranraer train and some trucks were in collision the express dashed into the confused

mass at a speed of nearly sixty miles an hour. The pilot engine, though the driver promptly reversed it and applied the brake, shattered one of the goods waggons, and then leapt the platform. The rest of the train swayed forward, the trucks that had fouled the line ripping out the sides of the carriages and completely wrecking one vehicle. Seven persons were killed, but it was feared that the loss of life would be much greater, for the train was unusually crowded, containing a large number of passengers who were returning south after the Whitsuntide holidays.

1884.

Breamore, June 3.

The coupling of a passenger train broke near Breamore, on the South-Western Railway. The carriages fell over an embankment, and five persons were killed and forty injured.

The First Penistone Disaster, July 16.

The disaster on the Manchester, Sheffield and Lincolnshire Railway at the Bullhouse curve, near Penistone, on July 16, almost rivalled the Abergele catastrophe in the number killed and the damage done to rolling stock; but the accident fortunately had not the dread accompaniment of fire. Sam Cawood, who had driven the newspaper train for years, got on the footplate of his engine at London Road Station, Manchester, for the return journey to town, and went out with the express, which was crowded with passengers, at half-past twelve o'clock at noon. He ran

without mishap, at the rate of nearly fifty miles an hour, till he had passed Hazlehead, and then the crank axle of the leading wheels of the four-wheeled bogie engine broke. The driver applied the brake with all his might, but the impetus of the train forced the carriages off the line. With the exception of the engine, tender, and a horsebox, all the vehicles were flung from the permanent way. The first and second carriages were hurled down the steep embankment into a field, and the next two coaches were pitched into the country lane and smashed, their occupants being killed or fearfully injured. The other five vehicles were overturned, with their wheels in the air, and the guards in the brake van had remarkable escapes from death.

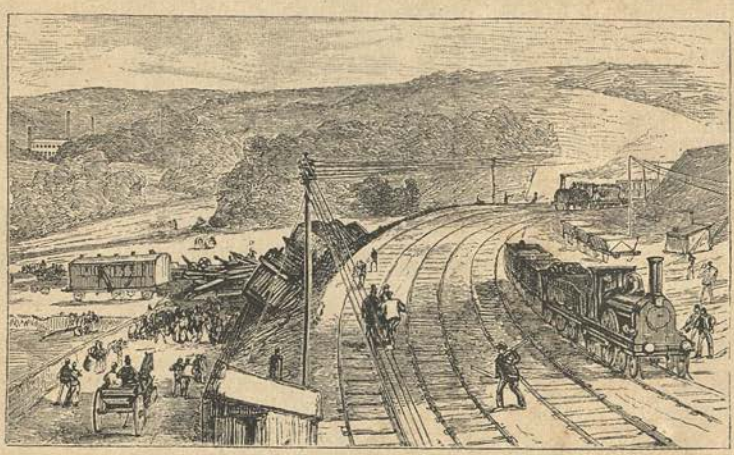
The broken carriages were heaped in almost inextricable tangle; and out of the wreckage on the embankment and near the bridge nineteen bodies—ten women, six men, and three children—were taken. A passenger cut his way out of a shattered compartment, but many others were so grievously injured that they could do nothing to help themselves, and their cries and moans were heartrending. There was some element of romance and superstition in the accident. One traveller was delayed on his way to a wedding party, and the silence that reigned for a moment after the disaster was disturbed by the crowing of a cock that had escaped from the darkness of a hamper in the van, and thought it was morn. No fewer than twenty-four persons were killed

instantaneously or died from the effects of the accident, and the number of injured was never accurately known. The Queen expressed her deep sympathy with the relatives of the killed and with the injured; and in every part of the country the wreck of the express was the chief topic of conversation for many days.

There was much inquiry, and from the mass of evidence two simple stories stand out clearly. The signalman said the express passed his box at twenty minutes past one o'clock in the afternoon, and three minutes afterwards the train was a wreck. He had only just time to readjust his signals, when he heard a crash; and looking out of the window, he saw the engine, tender, and horsebox staggering along the line —the rest of the train was down the embankment and over the bridge. The driver's account was even more dramatic. At Manchester he went beneath his engine, examined the crank axle, and was confident it was thoroughly sound. At Bullhouse he noticed something wrong with the motion of the wheels, heard a crack, and felt the locomotive lurch. He put on the brake, but the engine scrambled somehow beyond the bridge. Then, looking back, he exclaimed: "Oh, dear me! wherever is the train?"

The outside web of the right-hand crank of the driving axle had broken, causing the engine partially to leave the rails. The draw hook at the end of the horsebox had snapped, and the remainder of the train had fallen pell-mell down the bank, making

havoc and death. The crank axle that caused the mischief had only run fifty thousand miles, one-sixth the ordinary life of an axle, and was made of solid steel; but inside the web was "an invisible flaw, which had matured, by continual vibration, into an



THE ACCIDENT NEAR PENISTONE IN 1884.

absolute fracture." Major Marindin said the accident to the crank was not one that could have been foreseen or prevented, though a powerful continuous brake ought to have so reduced the speed that the consequences would have been far less fatal. He held that not the smallest fault could be found with the servants of the company for the manner in which they had performed their duty; and the jury returned a verdict of accidental death, recommending, however, that some more searching mode of testing axles should be adopted.

1885.

The Second Penistone Accident, January 1.

On nearly the same section of the Manchester, Sheffield and Lincolnshire Railway another calamitous accident occurred on this date, and perturbed passengers to such an extent that they began to look upon Penistone as an ill-fated place. Even commercial travellers, who seem to thrive on banging about, shied at the track, longed for another and safer route to Manchester, and were thankful when they had traversed curve and viaduct, and safely reached Guide Bridge. The second disaster occurred between Barnsley Junction and Penistone, not very far from Bullhouse, the scene of the previous wreck. In the morning an empty goods train left Ardwick for Kivetor Park, and on getting within a mile of Penistone Station, ran into an excursion which was on its way from Rotherham and Sheffield to Liverpool and Southport. Just as the two trains were crossing on opposite lines the axle of a private waggon in the goods train broke —was clean fractured, either owing to the frost or the hardness of the road. The truck jumped the metals, struck the engine of the excursion train, and rebounded; but, suddenly heeling over, fell with great force against the fourth carriage, crashing it in pieces, and then dragged along the coaches behind it, wrecking them also. The progress of the passenger train, which at the time of the mishap was running at the rate of nearly thirty miles an hour, was abruptly

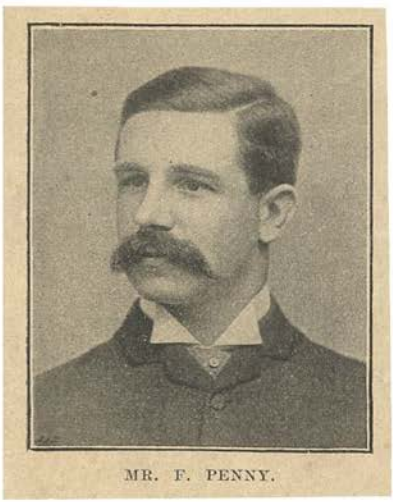
checked, and the vehicles in the middle and end of the train piled high in a heap of ruin. The woodwork had to be sawn away before some of the injured persons could be liberated, and the rescuers were almost unmanned by the stream of blood that poured upon the rails beneath the wreckage of the fifth and sixth carriages.

Four persons were killed and forty-seven injured, but there was one marvellous escape. An old gentleman sitting in the Liverpool portion of the train fell through the floor when the carriage collapsed, and was crushed among the broken timber; but his wife, who had been by his side, quietly kept her seat, and was uninjured. The rapidity of the accident was vividly described by one of the witnesses, who said: "The carriages seemed to fly asunder, nothing being left but the floor. The passengers in the compartment were flung violently together, and my son dropped through to the line, dying instantly. The whole thing was like a hideous dream, and came and went as quickly as a flash of lightning." The Sheffield Company in this, as in the Bullhouse disaster, escaped the payment of compensation, Major Marindin reporting that the breakdown of the goods train was an accident beyond the power of any railway servant to avert. He urged, however, that more careful attention should be given to the condition of rolling stock, and that there should be systematic periodical examination of all goods waggons, whether of private owners or of railway companies.

1887.

THE WRECK OF THE "RACE TRAIN" AT HEXTHORPE, September 16.

Doncaster, with its racing memories, can tell many stories of accident and incident—how my lord, driving home from the course with his coach and six, came to grief in ditch; how a jockey, coming up the straight like the wind amid a flutter of gay silk and the flash of hoofs, was ground at the rail and carried off the turf bruised and helpless. There has been blood spilled, too, in fight and crush at the station after the winning numbers have gone up and the huge crowd has begun to surge homewards again. But the disaster which took place at Hexthorpe, on "The Cup Day," Friday, September 16, 1887, stands out with lamentable conspicuousness in contrast to these somewhat trifling mishaps. A Midland excursion train from Sheffield, filled with people eager to reach the Town Moor to picnic, to bet systematically with the recognised bookmaker, to hazard their pocket-money with the welsher, to watch the race, and to shout as the winner went by, stood at a little-used ticket platform, when an express from Manchester to Hull, ignoring the signal against it, dashed into the



MR. F. PENNY.

THE HEXTHORPE ACCIDENT.

(From a Photograph by Taylor and Son, Doncaster.)

excursion train at the rate of twenty-five miles an hour. The passengers in the fast train escaped with a severe shaking, but the havoc in the special was very great.

Most of the carriages were shattered, driven back so powerfully on each other that they were ground and crushed to bits. The excursion engine was forced upon the wreckage of its own creating, and partially mounted a mass of broken woodwork, beneath which eight passengers lay lifeless. Many of the injured suffered the most frightful torture, not only because of their wounds, but owing to the difficulty of rescue, several persons being jammed so inextricably in the carriage frames that the timber had to be hacked away. The effect of the accident upon one passenger was singular. He was apparently unhurt, sprang out of a compartment, ran swiftly across the line, and then fell to the ground, sobbing and laughing like a woman with hysteria.

Twenty-five persons were killed and sixty injured in the disaster. Many of the latter found a true friend in Mr. F. Penny, the house-surgeon at the Doncaster Infirmary, who distinguished himself in succouring the wounded. The accident led to a remarkable offer from the servants of the Manchester, Sheffield and Lincolnshire Company, to whom the express belonged. The men of all ranks on the line decided to give up one day's wage each to pay the expenses of the disaster. A deputation, on behalf of the servants, proffered this thoughtful help to the directors at Manchester; but Sir Edward Watkin,

pointing out that the self-sacrifice on the part of their workers would mean a handsome gift to the company of £13,000, said the Board had concluded not to accept it, thinking that it would not be consistent with their duty to tax to such an extent those who lived by "the sweat of their brow." At the same time, the directors were deeply touched by the sympathy of the workmen, and tendered to them, by resolution, their heartiest thanks.

In the meantime the inquest relative to the passengers killed was held, and the jury, finding that the accident was due to the negligence of Samuel Taylor, the driver of the express, and Robert Davis, his fireman, returned a verdict of manslaughter against them; but at the assizes the men were acquitted. Major Marindin, in his report, urged that when block-working was suspended, every train should be stopped, not merely brought up or checked, at the block-signal cabin, and the driver verbally informed of the state of affairs.

The company had to pay heavily for the fault of their driver, who said he was looking ahead, and did not notice the red flags on the line.

Mr. Tom Vernon, a Sheffield cork merchant, one of the injured passengers, was awarded damages that ran into four figures, partly on the novel ground that he was a handsome man who had a keen sense of enjoyment and had been passionately fond of dancing, a recreation in which he could no longer indulge, seeing that he was doomed henceforth to limp about with a cork leg.

Life moves so rapidly in the present century that disaster and merry-making quickly become mere shadows of the past, and the Hexthorpe accident was soon nearly forgotten. But out of it sprang a most romantic incident that is talked about yet by the mothers of Doncaster and Sheffield. A child that had lost its parents was found unhurt among the wreckage, and a titled lady offered to adopt it on condition that its humble relatives would recognise it no more; but the humble relatives preferred to keep the little one in their fold.

1888.

HAMPTON WICK, August 8.

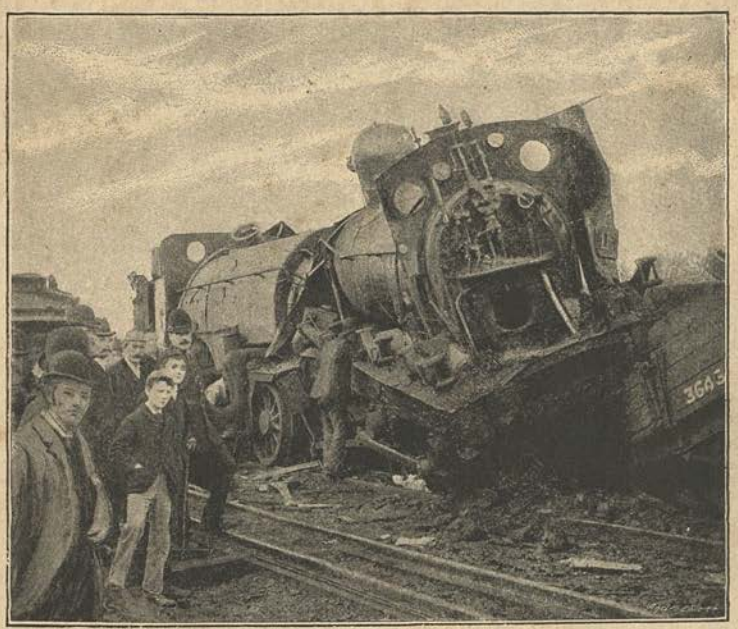
At Hampton Wick an engine ran into a passenger train, five persons being killed and many injured; but the London and South-Western Company, on whose line the collision occurred, were held blameless, the coroner's jury returning a verdict of "misadventure."

1889.

WARREN POINT, June 12.

The worst disaster that has happened on an Irish railway occurred at Warren Point, near Armagh. An excursion train had considerable difficulty in getting up the incline. The engine, in fact, was not powerful enough to pull the load behind it. The thoughtless driver got off his footplate and divided the train into two parts by uncoupling it in the centre, intending to take the first portion of the train up the slope, and then return for the rear part of the train. But to

his dismay he discovered, immediately he released the coupling, that the rear part of the train, which was crowded with school children and teachers on a holiday,



THE COLLISION NEAR TAUNTON. (*Page* 454.)

(*From a Photo by A. G. Petherick, Taunton.*)

began to move backward. Efforts to check its progress were in vain. Faster and faster it sped, amid the terrified cries of the passengers, to the bottom of the incline, where it dashed into another train. The excursion train was wrecked, and from the smashed carriages, and out of the great heap of twisted iron and shattered wood, many bodies were taken. No fewer than eighty persons were killed by this disaster,

which filled many a home with grief and called forth many messages of sympathy, including one from the Queen. At the inquest a verdict of culpable negligence was returned against three of the company's servants, and one was tried for manslaughter, but acquitted. Such primitive notions of railway working obtained on this section of the line before the accident that stones were placed on the rail to prevent the rear part of the train backing down the incline, just as a carrier's cart is "scotched" on a hill side. Now engines of greater power, fitted with more effective brakes, pull heavy trains up the steep.

1890.

NORTON FITZWARREN, November 11.

The railway accident near Taunton, on the Great Western Railway, on this night, sent a thrill through the South of England. A special train running to London with passengers who had reached Plymouth by the mail boat *Norham Castle* from the Cape, and were full of thoughts of home and friends, crashed into a goods train. The disaster was a terrible one. It occurred at Norton Fitzwarren, where George Rice, the signalman, had, through lapse of memory, left the luggage train on the up line. When he received the message asking if the road was open for the special mail, he signalled "All clear." The train of three coaches, containing about fifty passengers, was sent out, and came flying towards the junction at the rate of sixty miles an hour. The goods train did not

even show a red light, and the special dashed against it without the slightest warning. The goods driver and stoker sprang off the footplate on hearing the roar of the coming train, and saved their lives. Then came a crash that made the permanent way tremble, a shock the vibration of which was felt in the village of Norton. The two locomotives were wrecked. The driver and the fireman of the mail were flung, by the resistless power of the impact, on the carriage roofs, and miraculously escaped. But the fate of the passengers was dreadful. Ten of them were killed and many fearfully injured. The first carriage was not only broken up, but got on fire; and the blaze in the darkness, and the cries and moans of the injured, made a scene more vivid than any that ever leapt out of Dante's imagination. Help was speedily at hand, and the fire quenched, otherwise the disaster would have been even more appalling; for the three carriages were piled in a heap, and the injured were so tightly imprisoned in the wreckage that they had to be liberated with axes. Some of the incidents were pathetic; others ghastly and revolting. Several of the passengers, miners, were coming home with wealth from the diamond fields to spend their days in peace and plenty. One traveller, crushed hopelessly beneath the splintered carriages, cried in vain for release; then, realising that death was near, murmured, "Thank God; I can die happy," and expired. Another passenger had his head forced through the jagged glass of a carriage window, and

his face was as cruelly cut as though he had been subjected to torture by the Spanish Inquisition. The fate of Titus Baylis, a negro, was even more startling. After the fashion of his tribe, he was good-humoured, light-hearted, making and laughing at jest; but his merriment was suddenly checked by death, his head being completely cut off. An entire card-party in one compartment were killed; and the cards, blood-stained, were eagerly sought for on the line, when daylight came, by morbid people who gloat over tragedy. The signalman, aged sixty-four, was arrested and tried for manslaughter, but acquitted. The coroner's jury had brought in a verdict that the accident was entirely due to his negligence, but at the assizes justice did not rigidly demand its pound of flesh. A merciful view was taken of the old man's lapse of memory; but it was emphatically held that no man of the prisoner's age ought to have been left alone in a signal box at night, and the grand jury asked that the attention of the Government should be called to the great danger involved in allowing trains to stand shunted on main lines.

1891.

NORWOOD JUNCTION, May 1.

The iron bridge over Portland Road collapsed as the express from Brighton to London was passing over it. The accident was caused by a latent flaw in one of the girders. The train ran off the rails, and the guard's van, after hanging in mid-air, fell

upon the roadway. The accident was curious rather than disastrous, there being no loss of life, though several passengers were injured.

BARNBY JUNCTION, December 24.

At this junction on the Great Eastern Railway

THE ACCIDENT AT NORWOOD.

the rails are so laid that passenger trains may pass each other, the line forward to Lowestoft being single, and worked on the staff system. While the Beccles train was waiting here on December 24th, the driver of a train from Lowestoft, unable to see the signals owing to the fog, dashed into it. Both engines were wrecked, one carriage was completely telescoped, three passengers were killed, and nearly thirty injured.

1892.

BIRMINGHAM (LAWLEY STREET), May 27.

The down express left Euston in the afternoon of May 27th, divided at Rugby, and the latter part of the train ran on towards Birmingham. When it approached the junction at Lawley Street, a quarter of a mile from the tunnel entrance to New Street Station, the driver noticed that the Midland express from York was coming. The fireman said to him, "That Midland man's going a bit too far;" and had scarcely spoken when the Midland train ran across their track. The North-Western driver applied the brake; but his engine crashed into a Midland horsebox, and went, with the tender and first van, over the viaduct into a goods yard. The horsebox was smashed in pieces, and the groom, and a horse and foal, crushed to death. Robert Sexton, the guard of the North-Western train, was killed, and several passengers were seriously injured. Fear, the driver of the Midland train, said that all the signals were off into New Street, and that he saw no indication of danger till the signalman at Perley Junction hurriedly held up his hand from the window. George Brotherton, a commercial traveller of Wolverhampton, who was permanently maimed in this accident, obtained a verdict, with £1,150 damages, against the Midland Company.

ESHOLT, June 9.

At Esholt Junction, near Guiseley, in Yorkshire,

two Midland trains, one from Leeds and the other from Bradford, came into collision. The engine of the Leeds train struck one of the carriages in the Bradford train at an acute angle, and completely wrecked the coach. The impact was such that the locomotive was flung on its side on the line, where it made much havoc. No fewer than five persons were killed and twenty injured. Major-General Hutchinson, in his report on the accident, said: "The occurrence of this collision and of the other recent one near Birmingham under somewhat similar circumstances, directs special attention to the practice of the Midland and other companies of allowing trains—which cannot be prevented by facing points from coming into collision—to approach junctions simultaneously. It is certainly high time that no junction should be allowed to be approached simultaneously by trains which can come into collision by junction signals being overrun."

BISHOPSGATE STATION, June 14.

A disastrous collision occurred at the underground platform at Bishopsgate Street Station, on the above date. An Enfield train dashed into one from Walthamstow, wrecking many carriages. The place for some minutes was shrouded in smoke, dust, and steam, and there was great panic among the passengers, many of whom were artisans or work-girls on their way to business. "For God's sake, mates, jump out quick!" shouted a workman who saw the Enfield

train approach; but the warning was too late, and so great was the crash that four persons were killed and forty injured.

THE THIRSK DISASTER, November 2.

One of the most disastrous and pathetic accidents that have ever happened on an English railway was this at Thirsk, on the North-Eastern line. The second part of the Great Northern East Coast route express left Edinburgh at eleven o'clock on the night of November 1st, on its long run to town. Early the next morning, when going at the speed of nearly sixty miles an hour between Otterington and Thirsk, in Yorkshire, it dashed into the goods train that had just started from the signal station at Manor House Junction. Ten passengers were killed and as many as thirty-nine seriously injured. The leading third-class carriage of the express was broken in pieces, six other carriages were wrecked; and the brake van of the goods train and eight trucks were destroyed by a fire which broke out near the engine soon after the accident. It was thought that the train had been fired by the compressed gas with which the vehicles were lighted; but investigation proved that the outbreak was caused by the wreckage igniting at the engine fire.

Anyhow, the havoc was piteous. The express locomotive, when it struck the goods train, rebounded at a right angle across the line, and then pitched on its side. Pell-mell over it and against it crashed the

THE COLLISION AT THIRSK.

carriages, and about the great heap of *débris* the fire, which was so small at first that it could easily have been beaten out with a shovel, crept stealthily until it got thorough hold, and blazed away like a huge bonfire, with the rolling-stock for its prey. The rescuers made some sad discoveries. The calcined remains of two passengers were dug out of the heap of embers and dust left by the fire; and a little girl was so fearfully scorched by the flames that she died before she could be liberated from the charred network of timber, out of which the headless body of her doll was afterwards taken.

The driver of the express, Rowland Ewart, was seriously injured, but had a remarkable escape from death, being flung from the footplate of his engine into a pasture. The line was thick with fog after he passed Northallerton; but he could discern that the Otterington signal and the Manor House up distant signal were "off." While he was on the look-out for the home signal at Manor he caught sight of three red lights on the line ahead of his engine, about thirty yards away. He had not time to shut off steam, or even to get to his brake handle. He was dashed by the impact against the tender, but did not remember how he was thrown from the engine. When he regained consciousness he was lying in a field outside the fence of the line. He did not know where the engine was, or where he was lying; but he could hear the steam escaping, and he saw the fire break out amongst the wreckage; it was only like

the flicker of a candle, and he could have put it out quite easily if he had been able to crawl to it. And he also saw another remarkable thing. As he was lying maimed on the ground he glanced at the Manor House home signal, and noticed that it was still "off;" but he had scarcely caught sight of it when the signal suddenly went to "danger."

James Holmes, on duty in the cabin, had put the signal to "danger," but he had moved his lever too tardily, and was responsible for the accident. Yet he had caused it in circumstances so pathetic that the man received sympathy instead of condemnation. Unnerved at his child's death, and feeling incapable of doing his work properly, he had asked to be relieved from duty for the night; but there was no relief signalman at hand, and his plea was in vain. "Can you send relief to Manor House cabin to-night? Holmes's child is dead," was the telegram sent to traffic-inspector Pick, and the reply, from a deputy, came, "No relief can be sent." Holmes had had only four hours' broken rest after twelve hours on duty. He had been running about all day in domestic stress. With his body weary, with his heart filled with grief at his child's death, and his mind in a "bother about his wife," he went into the cabin to guide the express through the intricate points and to see her tail lights swing safely away in the darkness. He so distrusted his own power of endurance that he candidly said he was unfit for duty.

Still he had to go to his box. He worked absolute block system in both directions under ordinary rules. At 3.35 he got the "Be ready" signal for the Scotch express from Otterington, and accepted it. The train passed at 3.37, and at 3.38 he signalled "Line clear." The express passed, and he saw that it had a double tail-light, indicating that the second portion was coming. Then he got the signal "Be ready" for the goods train, and accepted it; and, overcome with fatigue, he fell asleep. Meanwhile the second part of the Scotch express was dashing southward. The signalman was startled out of his slumber by the "Be ready" signal from Otterington. He sent back "Line clear," and the goods train, after its patient stand, acted on the signal meant for the express, and started on its way. He suddenly realised, with sickening dread, what was going to happen. He seemed powerless, for a moment, to do anything. Then in desperation he threw his signals to danger; but it was too late. The second portion of the express had dashed into the goods train, and the mischief was done.

Holmes was tried at York Assizes for the manslaughter of George Petch, the guard of the goods train, and was found guilty, with a recommendation to mercy. The man, utterly broken down by sorrow and remorse, wept bitterly. Mr. Justice Charles thought he had been punished enough by the fact, seared on his mind for life, that his negligence had caused the disaster; and when the judge merely

ordered him to come up for judgment if called upon, the old court-house rang with cheering, which his lordship officially thought was most improper, though there may be hidden away among Mr. Frank Lockwood's whimsical sketches a caricature of the judge pulling off his wig and cheering too.

To the students of Zadkiel's almanack, to the superstitious, to the believers in fate, the experience of two passengers in the train afforded some comment. Captain Duncan McLeod, of the 1st Royal Highlanders, after going safely through the Soudan War, was killed, and his medals found scorched by the line-side. The Marquis of Tweeddale, chairman of the North British Railway Company, who is apparently becoming accustomed to railway accidents, was only rudely shaken. His lordship travels a good deal, and not without adventure. In 1886 he was a passenger in the express that was snowed up at Morpeth; a little later he ran into Gateshead in a carriage that left the rails and made havoc all along the track. At Thirsk he was in his berth in the Pullman car when the crash came. The forward end of the car was knocked off, but the strong framework withstood the shock, and all the Pullman passengers escaped injury. Lord Tweeddale probably owes his escapes not to supernatural agencies or to mere luck, but to the fact that he invariably travels in a Pullman car, which is at once a place of safety and a vehicle of peril.

If you happen to be a passenger in it at the time of accident, you are tolerably secure. But if you are

unfortunate enough to occupy an ordinary carriage, sandwiched between two heavy bodies, the Pullman car and the engine, the chances are that you will be crushed up. The only method of equalising the security is to run expresses composed of Pullman cars, or if these cars must be used on composite trains, to make the frames of the ordinary carriages as strong as those of their American brethren.

The Thirsk accident resulted in a great outcry with regard to signalling, and the concern was accentuated by the evidence given at the coroner's inquiry by the signalman at Otterington, who admitted that he should not like to say he had never fallen asleep in his cabin, although he had never been found asleep. The company were, so to speak, quite knee-deep in suggestions as to train-lighting, signalling, and the employment of their men. Henceforth there must be two signalmen on duty in every box; the signalmen demanded a ten-hour day, and some actually looked upon the disaster as a godsend in their attempt to obtain it. Major Marindin, in his report, said it was the duty of all railway companies to adopt some combination of mechanical and electrical appliance which would make such an accident impossible, unless the driver deliberately ran past fixed signals, and he also urged the engagement of relief signalmen, and the importance of the men being housed near their work.

The directors put aside £25,000 to meet the claims for compensation made by injured passengers; and at

the next half-yearly meeting Mr. Dent Dent, the chairman of the company, announced that they had decided to increase the number of relief signalmen in every district. He also said a word for himself and his colleagues. After expressing sympathy with the sufferers in the accident, and thanking the people in the locality for the kindly aid they had given to the maimed and helpless, he said he thought the press was very cruel to the directors and servants of a company when a disaster of this kind occurred. He claimed that they had as much sentiment as other people, that it was to them a matter of great personal sorrow and grief; and he said that for some time after the accident the matter was never out of his mind; it was, in fact, a great burden, and very hard to bear.

The reproach falls lightly on the English press. The record of 1892 shows that there is still need of reform in railway working. No fewer than 21 passengers were killed and 601 injured by accidents to trains and rolling stock, and 108 passengers were killed and 747 injured by accidents from other causes. Including trespassers, suicides, mishaps at level crossings, and accidents to railway servants on rolling stock or in works, the total number killed was 1,204, and injured 10,476.

1893.

Poulton (Blackpool), July 1.

Two serious accidents at sharp curves happened this year. On May 22nd a special train, running

down a steep gradient to a viaduct on the Tralee and Dingle Light Railway, sprang off the metals, and plunged over the bridge parapet into a glen, killing three passengers, pig buyers, who were on their journey to Dingle Fair. The second accident, which aroused far more comment, occurred on July 1st, on the Preston and Wyre Joint Railway, which is worked by the London and North-Western and the Lancashire and Yorkshire companies. The level crossing and sharp curve at Poulton-le-Fylde had long been subject of reproach, and parliamentary powers had been obtained to make a new station at Poulton to obviate the dangerous meeting of the two tracks, the one to Fleetwood and the other to Blackpool.

Nothing in the way of improvement had, however, been carried out on this night, when an excursion train left Talbot Road Station on its return journey to Wigan and Stockport. It was in charge of Cornelius Ridgway, a driver new to the road, and passed Poulton crossing soon after eleven o'clock at a higher speed than was usual. The fireman, who had previously warned the driver to be careful at the bend, shouted "Steady" as they approached it. When they got on the curve, as the pace did not decrease, he shouted "Whoa!" and he remembered nothing more till he found himself scrambling out of a hole by the line. The engine, tender, and two vehicles of the four of which the train was made up, had jumped the rails at "the nasty corner." The driver went over with his engine, and was crushed to death. Two

passengers were killed and thirty-five injured, nearly all people from Wigan.

The jury held that the accident was due to the culpable negligence of the two companies in allowing such a dangerous curve on the main line, and in appointing a driver not sufficiently acquainted with the track. Major-General Hutchinson made careful inquiry into the disaster, and reported that the high speed was the main cause of the accident, though the irregularity of the curve and the worn rails contributed to it. The driver, with a powerful engine and light train, reached the curve before he was aware of it, and neglected to reduce his speed, though he doubtless intended to do so. As long as the line remained in its old condition, speed boards limiting the pace round the curve to six miles an hour should be erected; and the junction up-home signal should be fixed at the commencement of the curve, and means taken to ensure that the speed was not exceeded, the best way of accomplishing this being to require all up trains to stop at the up-home signal, and all down trains at Poulton Station. Before the train left Blackpool, Robert Sanderson, the inspector, in spite of all protest, turned some of the passengers out of the first carriage, vigorously adhering to the rule that the compartments nearest the engine should run empty; and in his report Major-General Hutchinson highly complimented this servant, saying that his enforcement of the regulation had undoubtedly saved the lives of some of the passengers.

CHAPTER XLII.

STORIES OF CLAIMS AND COMPENSATION—THE RAILWAY CLEARING HOUSE.

The British Jury—Ingenious Litigants—A Clever Fraud—Genuine Actions—Heavy Damages—A Railway Chairman and Compensation—The Sleepy Passenger—Locomotive Sparks—Singular Action—Trivial Claims—Dipping into Railway Earnings—The Clearing House—How it was Established—Its Jubilee—Two Notable Letters—The Work of a Great Department.

THE word "compensation" has a just English ring, and every substantial railway company knows that a British jury thoroughly understands the meaning and scope of the term. It is one that has often given work to the judges in the Nisi Prius Court, that has filled the pockets of barristers with gold, provided many shrewd travellers with comfortable incomes (that they have been enabled to enjoy for years, notwithstanding their grievous injuries), and brusquely reduced the dividends of shareholders. Railway companies are liable for the negligence of their servants resulting in the death of, or personal injury to, any person. In the case of death the relatives can claim compensation if the action is brought within a year; and in the case of injury the person hurt can make a sort of wholesale claim, for he is entitled to recover compensation for loss of salary or business profits, the amount of his doctor's

bill, the charge for nursing, his seaside or change of air expenses, and substantial damages for pain, suffering, and permanent injury.

The special jury, no matter at what assize, are, as a rule, almost unconsciously susceptible to two classes of action—those for personal injury and those for breach of promise. They are sorry for the passenger who, owing to the company's negligence, has been smashed in body. They sympathise deeply with the pretty girl, dark or fair, who, owing to her lover's whim, has been broken in heart. In both cases the sentiment is creditable to human nature; nevertheless, this sympathetic conscience is, with regard to railway actions—whatever it may be in blighted love cases—a temptation to fraud on the part of the unscrupulous and the avaricious. Some people think lightly of cheating a board of directors.

The purses of railway companies, ever since the passing of Lord Campbell's Act in 1846, have been dipped into by many brazen liars and cool suave adventurers who have successfully foisted their stories of sham injuries on credulous courts. There is an old story about the eye-witness of a railway accident running down an embankment, creeping into an overturned carriage, giving himself a couple of black eyes, and suing the company for compensation for personal injuries. The author has himself known a case in which a passenger was so seriously injured internally that he was completely swathed in flannels and neckerchiefs, and limped about with a stick, till the assize jury gave him substantial damages; and then he bought

fine raiment, and flung away his crutch as carelessly as if he had been cured by the waters of St. Anne.

At Birmingham, in April, 1892, Thomas Nock recovered £50 damages from the Great Western Railway Company for the loss of his mother. The woman, while waiting for an excursion train at Kidderminster on September 5th in the previous year, was flung by the rush of the crowd between two carriages, and was so seriously injured that she died. It was somewhat whimsically contended that, considering the small sum paid by excursionists, it would be unfair to make the company responsible for the sudden act of a crowd: which really meant that if passengers insisted upon travelling cheaply, they must rather expect to be killed. Mr. Justice Cave speedily brushed away this peculiar sophistry, remarking that the mere exhortation of the porters to the people to "stand back" was as superfluous as if it had been addressed to the coming tide, and the simplest precaution would have been to admit ticket-holders only, and that there was clearly evidence of negligence to go to the jury.

"Insurance?" is the swift laconic question put by the booking-clerk, as he pushes your railway ticket and change across the worn counter to the aperture in the window. It is to many passengers an unpleasant question, and they frequently hurry off in disdain; but accidents will happen on the best regulated railways, and surely it is wiser, if it is your fate to be killed in a collision, to have an insurance ticket about you, and to be the means, though lifeless, of bringing

substantial benefit to your family. It is a gruesome way of making money; still, after the ruling of Mr. Justice Day at the Leeds assizes in 1892, few thoughtful railway travellers will enter a train without an insurance ticket. One of the passengers killed in the Esholt accident was Joseph Allen, travelling inspector and agent of the Law Life Insurance Company. It is said that doctors never take their own physic; but Mr. Allen encouraged his own business, and had insured his life for £1,700. His wife sued the Midland Company for damages for the loss of her husband. The company admitted their liability, but contended that the amount for which the man was insured ought to be deducted from the damages; in fact, it was plausibly argued that inasmuch as £1,000 of this amount represented an accident insurance, his premature death, from a pecuniary point of view, was really a gain to the widow, because in the event of his natural death, she would have received absolutely nothing on a policy of that kind. The barristers fought long on the point, but his lordship ended the argument by holding that "the company were not entitled to the benefit of Mr. Allen's prudence." The jury awarded the widow and her child damages to the amount of £3,000.

The havoc wrought by railway disaster seldom comes home to one. When it does, it is not easily forgotten. Though it was nine years ago, the scene at the first Penistone accident rises vividly before the author now—the officials, among whom was

Mr. Sacré, his usually merry face saddened with the thought of the death and pain around him, the torn-up permanent way, the disabled engine, the wrecked carriages, the cries of the injured, and the two rows of lifeless forms in the shed near the inn just below the station. The disaster was not the outcome of any railway servant's negligence, and the Sheffield Company were not liable for damages; but railway companies seldom escape so fortunately, and Mr. Laing, recently speaking to his shareholders on this point, remarked that compensation was, in effect, very much an insurance, depending not so much on the gravity of the accident as on the wealth and position of the persons injured. It might seem a hard saying, he added, but it was true, that an accident which killed half a dozen third-class passengers might cost the company less than a slight collision which gave a shock to a rich merchant or a stockbroker.

MR. S. LAING.
(From a Photo by W. & D. Downey, Ebury Street, W.)

Sometimes the railway companies are a little too fastidious, as was the case in 1888 on the London and Chatham line. A passenger, peacefully asleep in a compartment, was taken beyond the station at which he had intended to alight. The company aroused him, and demanded the extra fare; but the traveller, now wide awake, refused to pay it, and was summoned before a magistrate; but his worship, who evidently thought it a pity that a man should be disturbed

when "fast lock'd up in slumber," found that the defendant was not liable to pay the extra fare.

An infinite variety of actions and claims have arisen out of railway travel and transit. The locomotive has an appetite that is costly to appease, and indulges also in two expensive recreations—the emission of sparks and the flinging out of black smoke. The former habit is grievously destructive, and in consequence of it railway companies have been obliged to pay compensation for the loss of a woman's eyesight, for the burning of a horse and cart, and for damage to crops.

A singular claim was brought against the Manchester and Yorkshire Railway Company in December, 1891. The scenery used in Messrs. Pettitt & Sims' drama *Master and Man* was damaged during its conveyance from Wakefield to Preston. The scenic artist tried to hide the cracks with ivy and other foliage, but the damage was beyond complete obliteration, and the business director of the dramatic company felt bound, in honour, to alter the theatre bill, simply contenting himself with the tame description "special scenery," instead of "new and beautiful scenery," which he was honestly entitled to say before the pastoral and idyllic scenes had been knocked about on the line. The railway company sought to prove that the scenery was old and had been patched before the latest mishap; nevertheless, they were obliged to pay £25 damages.

Our railway companies have daily, almost, to fight or satisfy claims for the merest trifles, and to compensate people sometimes for boxes that have never been lost,

and for goods that have never been consigned. But so far they have not encountered a litigant like Eva Frear, who in 1892 claimed from the New York Central Railway Company £10,000 damages for the loss of her lover!

Earnings are dipped into for a variety of purposes never contemplated by George Stephenson. But as a rule the shareholder, realising the necessity of railway enterprise and even the claims of philanthropy, seldom grumbles at the shrinkage of these earnings if the money is applied usefully to develop his own property or to improve the condition of his servants. There is one outgo of revenue, however, that he detests, and that is the ever-increasing sum at which the railway is rated. The drain is so serious that the companies are becoming restive about it; and Mr. Saunders, the chairman of the Great Western, said at a recent meeting, with a tinge of sarcasm, that they had been obliged to pay no less than £8,000 in higher rates, and that if the public had to feed and educate all the children in the country, which seemed to be the fashion just now, the sum might swell to any amount.

"The Railway Clearing House exists," as one writer has said, "for the purpose of being, as a neutral concern, able to reconcile the conflicting interests of the various railway companies throughout England and Scotland, in their dealings with each other." The great advantage of this is that all railways, as far as the public are concerned, are almost like a single system. A person

may travel, or goods may be conveyed, from Land's End to John o' Groats, say, without necessitating more than one booking. But for the Railway Clearing House this would be impracticable, if not impossible, and instead of one booking at the beginning of a journey travellers would have to re-book with every company whose rails they passed over. It should be understood that railways settle their own local traffic—that is, traffic in which only one company is concerned, for the Railway Clearing House only deals with "foreign," as the traffic is called in which more than one company is interested. It might at first seem strange, and even unbusinesslike, to learn that intermediate companies keep no record of goods or passengers passing over their lines, and that they are entirely at the mercy of the forwarding and receiving stations for their share of any money earned in through transactions. However, the friendly offices of the Railway Clearing House obviate all concern on this score. In the case of a passenger, his ticket is forwarded to Seymour Street, in Euston Square, with all its punchings, by the company that collects it at the journey's end. In proportioning the amount due to the several companies concerned in a transaction, the fare is divided among them in the ratio of the distance that each company carried the passenger. For convenience there is a separate department to deal with each kind of traffic in the Railway Clearing House. Although, roughly speaking, all receipts are divided according to mileage, there are so many special agreements and exceptions to general rules in

force, that the work could only be accomplished by persons familiar with it through length of service. This is particularly true of goods traffic. For every consignment of goods the forwarding and receiving stations send each an abstract to the Railway Clearing House on a printed form, setting forth their nature, whether carted or not carted, paid or to pay. These abstracts are compared, and should they differ in the slightest particular, the mistake must be found out and rectified before anything further can be done. If the abstracts agree, after deducting certain fixed charges from the sum received, according to the class of goods, what remains is divided, the fixed charges, called terminals, going to the terminal companies as extras for their trouble in collecting and delivering the goods. The division is the difficulty, as perhaps one company claims a toll of so much, another something additional for this, another for that; and to do right, let alone pleasing them all, our Railway Clearing House clerks require to be very sure of their ground.

ROBERT STEPHENSON.
(From a Portrait by George Richmond, R.A.)

For half a century this work has gone on at the Railway Clearing House, expanding year by year with the opening of new lines and the growth of traffic.

The system was established in the year 1842, with Mr. George Carr Glyn (afterwards the first Lord Wolverton), Mr. Robert Stephenson, and Mr. Kenneth Morison as its supporters. A statement that it originated with Sir James Allport, who found the old plan of booking passengers on the Birmingham and Derby Railway cumbersome, and so was led to work out the idea of a clearing system, provoked an interesting correspondence in 1892.

One of those who took part in it was Sir Edward Watkin, M.P., who bore the following testimony:

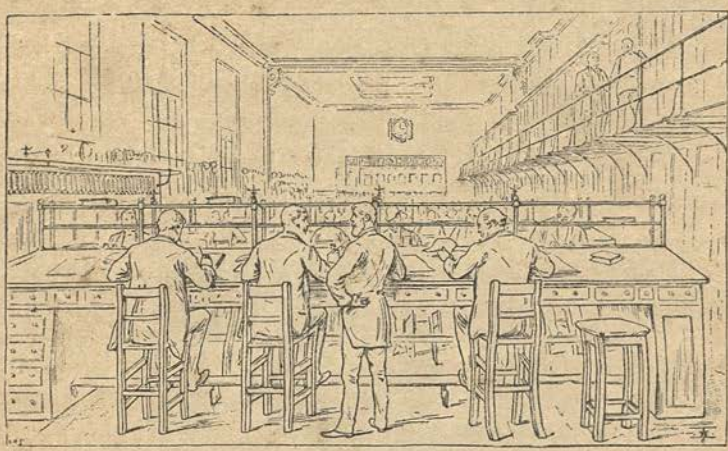
"Those who lived in those days knew very well that the suggestor of a railway clearing house to promote settlements between railway companies as regards division of traffic—very much like the clearing house in operation with the bankers—was Mr. George Carr Glyn (afterwards Lord Wolverton), chairman of the London and Birmingham Railway, and he employed that distinguished man, Mr. Kenneth Morison—who had been an Indian Civil servant, and was an eminent mathematician, and who seemed to have a genius for figures—to work out the idea, which he did. Nearly fifty years ago I remember, as the *employés* of the Clearing House, Mr. Zachary Macaulay, Mr. H. Oliver (still in the service, and to whom, on the completion of his fiftieth year of service, a testimonial is about to be given), Mr. Philip W. Dawson, Mr. Brown, and Mr. Gilbert. At the time my recollection commences, the business was transacted in a small house in Drummond Street, adjoining the Euston Hotel (west wing), and was worked by a small number of clerks. From the outset Mr. Glyn was the chairman."

Feeling disinclined to let Mr. Carr Glyn have the honour without comment, Sir James Allport wrote a letter of uncommon interest to explain the part he himself took in the establishment of the Clearing House:

"I entered the service of the Birmingham and Derby Railway Company in the year 1839, and subsequently I was intrusted with the traffic arrangements of that company. The communication established between the various railway companies for the interchange of traffic, necessarily brought me into conference with other companies, as to the mode of dividing and adjusting the receipts from the traffic. The process of settlement at that time was tedious and difficult, and it occurred to me that this work would be very much better done by an independent tribunal, which should act under the written instructions of the companies concerned. The difficulties led to frequent discussions, and many suggestions were made, and ultimately one by myself, that we should adopt a system similar to that which existed in London, and known as the Bankers' Clearing House. Mr. Robert Stephenson was then the engineer of the London and Birmingham, the Birmingham and Derby, and the North Midland Railways. These three companies had through bookings and settlements with each other such as I have indicated. Mr. Stephenson was not only an engineer, but a man possessing broad and accurate views upon commercial questions, and at a meeting of the Birmingham and Derby directors, at which, to the best of my recollection, Mr. Stephenson and Mr. Samuel Carter were present, the subject was discussed. Mr. Samuel Carter was the solicitor of the London and Birmingham and Birmingham and Derby Companies. Mr. Stephenson undoubtedly discussed the subject with Mr. George Carr Glyn, the chairman of the London and Birmingham Railway Company, and both concurred in the desirability of establishing a railway clearing house. Mr. Glyn selected Mr. Kenneth Morison, formerly in the service for a short time of Messrs. Macaulay and Babington, East India merchants, Calcutta, and afterwards, on his return to England, in that of the London and Birmingham Railway Company, in their audit office, than whom no better man could have been found for the purpose of organising the system.

"The result of these various discussions was the establishment of the Railway Clearing House, and its operations commenced in 1842. I have now before me the minutes passed at the first meeting of the delegates on the 26th of April, 1842, which was presided over by Mr. Glyn. At that meeting Mr. Morison reported 'that all the arrangements having been completed, on January 2nd last, the clearing system came into operation on nine

railways,' of which the Birmingham and Derby was one. Mr. Glyn was chairman of the committee of delegates until his death in 1873, and he was succeeded by Mr. Benson, deputy-chairman of the London and North-Western Railway Company, who died in 1875. After the death of Mr. Benson, I became the sole survivor of those who took



THE LONG OFFICE AT THE RAILWAY CLEARING HOUSE.

part in the establishment of the Clearing House, and, at the first meeting of the committee after his decease, Colonel Salkeld, who presided, alluded to this fact.

"There can be no doubt that the early adoption of the system was due to the great influence and advocacy of Mr. Stephenson, but it is equally certain that the extension of railways and rapid development of the traffic of the country would have sooner or later forced upon the companies its adoption. The above shortly describes the origin and establishment of the Railway Clearing House."

The little Clearing House had a modest beginning, dealing with the business of nine railway companies, in the small house in Drummond Street, London, and now and then the staff of clerks, not more than

six in number, found time hang rather heavily on their hands. But before long the work increased. By-and-by nearly every railway company in the kingdom found it absolutely necessary to adopt the clearing system, the old house at last became too small, and a move had to be made to the great dingy buildings in the neighbourhood of Euston station.

When the jubilee of the Clearing House was celebrated in 1892, some interesting figures were given as to the growth of the labour in it. The capital of the English railways had increased from £50,000,000 to £900,000,000. The miles of track had extended from 1,600 to 20,000. The number of passengers carried yearly had increased from a mere handful to 850,000,000, exclusive of season-ticket holders; and the miles run by our trains had reached the total of 300,000,000 per year. The receipts of the railway companies cleared the first year amounted to only £195,000. Now the receipts cleared every year exceed £22,000,000; and during the half century the receipts dealt with have swollen to the enormous sum of £500,000,000. The days of demurrage charged on waggons "numbered 18,000,000, or nearly 50,000 years, a period which is eight times greater than that which has elapsed since the Creation, according to the Biblical chronology; while the miles run by such stock accumulated to a total of 18,626,931,374—figures which may perhaps best be left to the astronomical mind to digest."

The six clerks soon found their office leisure cropped. Now they were struggling with mountains of work. The more they did, the greater the heaps of papers and the huge layers of tickets became. The staff was increased again and again, and it is increasing yet. The Clearing House now employs no fewer than 2,100 clerks—1,650 doing duty in Seymour Street, "and 450 being employed at railway junctions in the country, where night and day throughout the year they are engaged in recording the number, name of the owner, and intended destination of every railway company's waggon, passenger carriage, van, and tarpaulin, which passes from one company into the hands of another company; the same process being gone through when the vehicle or sheet is returned."

What patient research and quiet industry there has been in these plain, almost grim-looking buildings since George Hudson, the "Railway King," reigned, and was dethroned; what examining of ticket-punchings, and goods abstracts; what calculating, thinking, and writing; what delicate negotiation, and what adroit settlement of disputes by the busy brains and hands that here control the nation's traffic! The Clearing House has given several illustrations of the fact that steady honest work kills slowly. Mr. Philip Henry Dawson, who was one of the six clerks first engaged in this calculating hive, toiled for half a century at the desk, first as penman and then as secretary, dying in 1890, while still on duty. Even a longer,

if not more notable career, has been that of Mr. H. Oliver, the head of the mileage department. He entered the house when its doors were first opened to this kind of work, and for more than half a century has kept account of the strides of the English railway system—a system that on the face of it looks severely practical, and hideously dry as a study, with its statements about capital authorised and capital created; about revenue and working expenditure, with its endless tables of traffic and mileage and its eternal reckoning-up; and yet has a good deal of romance weaving around its steel track.

MR. HENRY OLIVER.
(From a Photograph by Fradelle & Young, Regent Street, W.)

CHAPTER XLIII.

THE STORM AMONG THE TRADERS.

A Clergyman's Hobby—The "Differential Calculus"—An Interesting Treatise—Trade Driven to the Coast—Revising the Rates—Disappointment of the Traders—Indignation and Agitation—Sending Goods by Canal and Highway—Lord Winchelsea's Threat—Ruined M.P.'s—Lord Wharncliffe's Speech and Opinion—Modifying the Rates—Cheap Transit Imperative—"Bringing the Railway Companies to their Senses"—Annoyed Directors—Mr. Mundella's "Rude Assertion"—Another Committee of Inquiry—Their Report.

THE mind has many strange leanings, and is able to get interest out of the most abstruse studies and the driest facts. The author, in his youth, knew a clergyman who, after a distinguished career at the University, wasted the best years of his life and sapped all the vitality out of his system in working out a remarkable book on a branch of higher mathematics. When he died, and people began to ask what he had done, his great work on "Differential Calculus" was sought, and found on the shelf of a Philosophic Society's library, covered with dust, and with the leaves uncut.

A treatise on railway rates would be almost equally interesting, especially as there are one thousand Acts of Parliament giving to railways certain maximum charges and classifications, and as the new rates make a library themselves, filling nearly forty volumes. It is sufficient here to say that for years the railway

rates have been a hardship and a grievance to manufacturer and trader. Dronfield, a little Derbyshire town, was practically ruined by the removal of the steel rail trade to the Cumberland coast, and the migration of the workmen consequent upon the charges for railway conveyance. At one time it was gravely stated that you could buy a couple of houses there for a five-pound note; and certainly when the author walked through the place it had a desolate look, for many of the cottages were tenantless, with windows boarded up or broken, and the large works, that formerly echoed with the thud and ring of labour, and were bright with the glare and gleam of furnace fires, were dismantled and silent. One could almost have imagined that Cromwell, who had a particular fancy for knocking things over in Derbyshire, had been round there again with his "great guns," and iron drakes, and pikes and halberts.

The grumble against railway rates has been growing louder since the trade decline that followed the prosperous period in 1874. The exodus of firms to the sea-coast, to avoid the cost of carriage, and the reviving interest in canal construction, encouraged it; but it was the incessant cry of agricultural depression that forced the subject on the attention of Parliament. By the Railway and Canal Traffic Act of 1888, the companies were compelled to prepare new schedules. The Board of Trade did not consider these satisfactory, and "the whole question of rates," as the *Times* wrote, "was referred to Lord Balfour of Burleigh

and Sir Courtenay Boyle, who, after an inquiry lasting for three-quarters of a year, reported in the summer of 1890. The recommendations of this tribunal, incorporated in thirty-five provisional orders, were submitted to Parliament in the Sessions of 1891 and 1892, and, after a further investigation before an influential Joint Committee of both Houses, under the Duke of Richmond as chairman, obtained statutory sanction. Thus thirty-five separate Acts of Parliament, one for each company or group of companies, now regulate the power of fixing rates and the classification of goods. The system is the same in principle for all. All goods are divided into eight classes, and the Board of Trade, while cutting off certain rates above a fixed level, declined to interfere with the responsibility of the companies in settling what the rates shall be that fall below that level."

SIR COURTENAY BOYLE, K.C.B.
(*From a Photograph by A. J. Melhuish, 58, Pall Mall, S.W.*)

The system seemed fair enough. Some of the railway companies expressed themselves satisfied, and the traders looked hopefully forward to the beginning of 1893, for easier rates of carriage and a steady development of their trade. In the offices of the

railway companies there was, day and night, the arduous work of preparation. Thousands of new rate books had to be got out. On the London and North-Western Railway no fewer than twenty millions of separate rates had to be overhauled. On the Midland Railway as many as fourteen millions of rates had to be revised. At last the work was accomplished. The books were ready for the instruction of the trader in the new rates and charges, in the new classification of minerals, stock, and merchandise, in the graduated scale of maximum rates, and the mysteries of terminal charges; and the trader soon showed his abhorrence of the lesson. The information he derived from these instruction books filled him with distrust and disgust. So far as he could gather from the maze of figures, the railways had won the wrestling match before the Joint Committee. The new rates seemed, on the face of them, as difficult to solve as a problem of Euclid; but the trader soon discovered two unpleasant facts—that the carriage rates on most merchandise had been increased, and that the terminal charges were in some cases absolutely excessive.

New Year's Day, instead of a day of good wishes, was a day of consternation and protest. The coal-owner found to his dismay that he would no longer be able to run twenty-one hundredweight for a ton; the milk dealer discovered that the cost of carriage per churn had gone up; and the trader was well nigh in despair because the old method of charging so

much per ton per mile had been superseded by a graduated scale of so much per ton for the first ten miles, so much for the next ten miles, and so on, till in a long distance transit, the goods, as it were, swallowed their own profit.

The increased rates were more than the farmers, manufacturers, and traders could bear. They meant the ruin of the agriculturist, and the arrest of trade. Merchants, colliery proprietors, chambers of commerce, and city councils met, and adopted resolutions protesting against the increased cost of carriage. There was, in some breasts, secret satisfaction that the new rates would make the German merchant hesitate before exporting his goods to the English market; nevertheless, on every side, there were threats to boycott the railways. The friction became so acute in some quarters that the farmers not only distrusted the railway companies, but the traders too: one agriculturist remarking, "The cunning tradesman says to the simple farmer, 'You come and help us to pull the chestnuts out of the fire.' The simple farmer does so, and gets his fingers burnt. The cunning tradesman gets his rates reduced in many cases, and the simple farmer can now clothe himself in sackcloth and ashes, and curse his own folly."

The agriculturists of the eastern counties determined to send their stock by road. In some districts the waggon and carrier's cart were again brought into requisition for the carriage of goods.

Canal and sea were utilised in opposition to the railways, and traders chartered their own boats and sent cargoes from quay to quay, to the annoyance of the railway manager. Barges and hoys, congested with the produce of the field, plied between the southern ports and town; but they could not cope with the demand, and the London poor were threatened with a vegetable famine, while the gardener and agriculturist of Kent, in a land of plenty, said they were on the verge of ruin because they could not get their produce to market at a profit.

The country for a few weeks was in a sort of commercial civil war. In the midst of it, Lord Winchelsea (perhaps better known as the energetic and versatile Mr. Finch-Hatton) went about the land in the dual character of Dictator and Peacemaker. With one breath he said he had made the railway companies climb down from their high rates, and cried *Væ Victis*, for he meant to make every railway shareholder in the country tremble. With the next he spoke with kindliness and persuasiveness to the farmers, and asked them to join his Agricultural Union. He doffed the character of Giant Blunderbore in the nursery rhyme, and assumed that rather of William Penn, the Quaker. If you joined his Agricultural Union it would bring you happiness as surely as the sowing of hempseed on All Hallows' Eve would bring the maiden a lover. Not only were the lion and the lamb to lie down together and eat grass, but a much stranger thing was to happen—the landlord,

the farmer, and the agricultural labourer were to sit at the same table and divide the profits derived from their investments and toil. It was a delightful picture; but the agriculturist, like the "Northern Farmer" in Tennyson's poem, has still the fear, especially if he does not live thriftily, and avail himself of the best methods of cultivating the soil, that

> ". . . Summon 'ull come ater meä, mahap wi' 'is kittle o' steäm,
> Huzzin' and maäzin' the blessed feälds wi' the Divil's oän team;"

and the labourer has still to work in the field and in crowded city at the market price without much profit-sharing. In fact, according to Major Rasch, M.P., the depression is singularly acute. In seconding the motion early in the session of 1893 for the adjournment of the House over "Derby Day," the honourable member said, that what with bad seasons, swine fever, and wheat at twenty-three shillings a quarter, it would be an act of charity to allow honourable members representing agricultural constituencies to go down to the Derby, possibly for the last time. He felt morally certain that in twelve months' time, many of them would be so poor that they would not be able to pay for their own tickets.

Lord Wharncliffe was the first railway chairman who touched the vexed subject of rates in the presence of shareholders. Sir Edward Watkin was ill; and his deputy, the genial sportsman of Wortley Hall, had to step into the breach, as he has often done in his adventurous life, in time of danger. Lord Wharncliffe is not a model speaker, but he is a man of common

sense and business capacity. It was, he said—speaking to the proprietors of the Manchester, Sheffield and Lincolnshire Railway—a great error to suppose that railway companies had any interest in crippling trade. On the contrary, it was to their interest to promote trade. The companies now knew how much they could charge, but they were careful not to charge the maximum amount in all cases. Their main duty was to get a dividend for their shareholders, but if in doing that they proceeded to kill the goose with the golden egg—that was, the trader—there would be nothing left for dividend. It was therefore very much to the interest of railway managers to agree with the traders. He counselled the traders to let the officials of the company know where the shoe pinched, in order to see if the pressure could not be relieved. It was to the interest of both parties to be as conciliatory as possible, and he was glad to know there was, on the part of the company, a disposition to do what they could to meet the legitimate wishes of the traders.

LORD WHARNCLIFFE.

(From a Photograph by Mayall & Co., New Bond Street, W.)

Meantime, every available mode of pressure was used to make the railway companies ease the rates. Counsel's

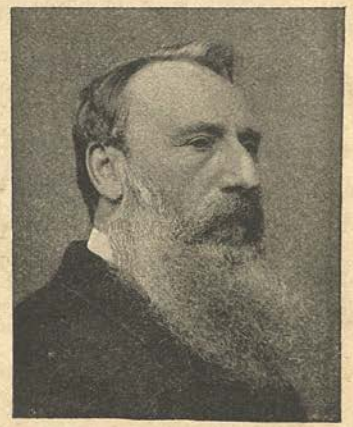
opinion was taken, petitions rolled in against railway managers, and traders besought the help of Parliament in their stress. Sir Henry Oakley, the general manager of the Great Northern Railway, was called upon by the Board of Trade to state what action the railway companies were taking with respect to the objections; and he wrote on January 24th, stating that a committee of goods managers had been sitting to consider specific complaints of the adverse operation of new rates, and that many modifications had been adopted. The railway companies adhered to the view that this process, steadily continued, would remove all just causes of dissatisfaction. "They are not," he added, "prepared to regard the revision of rates under the recent Act as one solely of reduction, without such fair and moderate alterations in an upward direction as will recoup their stockholders a portion of the loss sustained; but they are prepared to give the Board of Trade, and, through them, the trading community, the assurance that it is neither their interest nor their intention to maintain any rates which will prejudicially affect the trade of the country."

Notwithstanding this dignified reply, made practically on behalf of the companies, there was a general feeling in the industrial and trading sections of the community that the railways had made a mistake. Their policy with regard to passenger traffic had been to give travellers as much as they could for the money, and third-class receipts had increased enormously, becoming on some lines the most gratifying source of revenue. Their new policy with regard to goods was on

entirely different lines. It was a niggardly and close-fisted policy, and it was, moreover, economically unsound. The *Times*, in defending the attitude of the companies, said: "Railway companies, after all, are traders selling transport, and many of their members are very small traders, who can ill afford any reduction of their trading income. They get, on the average, not more than three and a-half per cent. for their money—a rate which, according to common report and belief, no tradesman would condescend to look at." Quite so. The tradesman getting only three and a-half per cent. on his capital would find it difficult to keep his shop door open, and his gas-lights flaring on the announcements that his tea is the best in the world, and that he is selling everything at an immense reduction. But his percentage of gain would certainly shrink if he committed the folly, in an age when everyone goes to the cheapest market, of suddenly increasing the price of nearly everything he sold. It is not by increasing the cost of transit, but by lowering it, that the railways can make better dividends. It should be the policy of the railway companies not to contract, but to expand trade; and undoubtedly the railway property that is the most prosperous in the future will be the one that aims to carry an enormous bulk of traffic at a cheap and easy rate; that, to quote Mr. Mundella's words to the agriculturists and traders of the kingdom, "encourages efforts of the home producer to place his goods as cheaply as possible within the reach of the consumer."

The railway companies, in the force of circumstances,

and amid the storm of indignation raised by their customers, were obliged to look at the question in that light. It was an irksome lesson; but they had to learn it. In a month many of the new rates were revoked. The London and North-Western, the Midland, the Great Northern, and the Great Western went back, in numerous instances, to the scale of rates in force prior to the revision, and to some customers, notably the milk dealers, gave rebates calculated from the beginning of the year. On February 7th, 1893, Mr. Mundella, rising in his place in the House of Commons, read a letter from Sir Henry Oakley, in which it was stated that the companies were still busy readjusting the rates, with generally satisfactory results to the traders; and the President of the Board of Trade expressed the hope that no time would be lost in bringing the rates within reasonable limits, and that the result of the further revision would render parliamentary interference unnecessary, adding, with a touch of sly humour somewhat rare in ministerial answer, that there were a vast number of lower rates, and concerning these his department had received no complaint. The traders, nevertheless



THE RT. HON. A. J. MUNDELLA, M.P.

(From a Photograph by Messrs. Bassano, Old Bond Street, W.)

held that they had very substantial grievances. They derived little solace even from *Punch*, who sought to introduce humour into the dry land of arithmetic and argument by remarking: "Whatever question there may be on this subject, there can be none as to the rates at which the 'Bournemouth Express,' the 'Granville, L. C. and D.,' and the 'Flying Dutchman' severally travel. Such rates are first rate."

The traders maintained that the railway companies begrudged what they were obliged to concede, and that they were by no means conceding enough. The agitation was continued with vigour by meeting, deputation, and question in Parliament. Mr. Mundella was frankness itself in his attitude towards the offending companies. He told them that they had promised not to raise their actual rates, that they had broken faith, that he would give them till Easter to complete their revision and to go back to the old rates, and practically said that if their repentance and restitution were not thorough and sincere, he should introduce a Bill that would bring them to their senses. There were fierce glances at the *Times*, and ejaculations at many a railway board, when Mr. Mundella rode along the line and threw down the gauntlet against "the Black Knight, Monopoly." His language was not the language of diplomacy. It was a new, surprising, and unpleasant departure from the traditional language of officialism. It was altogether too blunt, too abrupt, "too impertinent." The railway captains of England are men of vast wealth and power,

MR. J. P. BICKERSTETH.
(From a Photograph by Elliott & Fry, Baker Street, W.)

and they have a lofty pride of position; and they could ill tolerate what they considered downright insolence from this "browbeating politician."

But they were too discreet to express their opinion of the President of the Board of Trade in public. It is true that Mr. Bickersteth, upholding the dignity of the London and North-Western Company, felt bound to say that Mr. Mundella's statement "was a very improper one;" while Mr. G. E. Paget, for the Midland, said the strength of the right hon. gentleman's language did not frighten him in the least; but, as a body, they kept their chagrin to themselves, and on the night of February 21st the President of the Board of Trade was enabled to inform the House that the railway companies were anxious to arrive at a settlement, and that they were doing all that was possible to meet the wishes

MR. G. E. PAGET.
(From a Photograph by Elliott & Fry, Baker Street, W.)

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of the traders. Mr. Saunders, the chairman of the Great Western, was quite as frank as Mr. Mundella, but in another direction. He said there had been senseless criticism by gentlemen who seemed to live and thrive chiefly upon agitation. The Great Western represented about one-tenth of the whole railway system of the country, and the commercial interests affected by the ramifications of the 2,500 miles of line of which their undertaking consisted were quite one-tenth of the commercial industry of England. It was, in these circumstances, absurd to suggest that they would do anything to check the trade of the country, upon which their prosperity depended. No injustice would be knowingly done to any of the company's customers; and if they would only bring their grievances to the responsible officers, instead of taking them to Chambers of Commerce, and Members of Parliament, whose object it was to secure votes, it would be to their benefit.

The dissatisfaction among the traders continued. At one sitting of Parliament in March no fewer than sixty Railway Bills stood for second reading; but so acute was the feeling against the companies with regard to the rates that two hon. members gave notice to move the rejection of all these Bills. The railway companies were given parliamentary grace till Easter. They made both promises and concessions, but failed to pacify their customers; and finally, another Select Committee of the House of Commons was appointed to inquire into the manner in which

the railway companies had dealt with the traders under the revised rates, and, if necessary, to suggest further legislation for the settlement of the dispute which had caused so much friction and seriously checked trade.

The Committee held a long and patient inquiry. They had abundant evidence that the managers of the great railway companies had, by mutual agreement, raised many of the rates to the maximum, in order to recoup themselves for the losses they expected to sustain from the lowering of other rates. On the Great Western, for instance, the delicate process was carried out with genius. The company anticipated that they would lose £93,000 a year by the reduction of the old actual rates to the new maxima. Consequently they raised the rates of all classes of goods to the maximum. It was soon discovered, however, that this course would recoup them too handsomely, so they simply increased by five per cent. the rates which were below the maxima. Now they stood to lose £80,000 by reduced rates; but the increased rates were so numerous, on the other hand, that they had the prospect of wiping out the loss, and of handling an extra £50,000 still in pocket after their adroit commercial transaction. The traders began to feel like bewildered victims of hocus-pocus in the village fair; they were very angry, and insisted on further reductions. Even then, under the rates revised for the benefit of the traders, the traffic profits of the company showed a prospective gain of £14,000. What

had happened was this — the company, to guard themselves against the loss of £80,000 on one class of traders, were about to make a profit of £94,000 on another.

Crowning the mass of evidence taken at the inquiry on behalf of the companies and the traders was this fact, that the railway managers, in their natural and earnest desire to do the very best for the shareholders, had utterly checkmated the rates revision. They had not only shielded their profit-making traffic from attack, but had actually gained advantage in the fight; nor were they particularly submissive, though they received many hard knocks from the traders. Sir Henry Oakley made perhaps the most significant statement. He said the only restriction the railway companies recognised was that there should be no undue preference. The proposal for the establishment of a tribunal to intervene between the companies and the traders really meant that somebody should be appointed to fix rates without regard to any Act of Parliament; and the effect of that would be to interfere with the basis on which the companies had expended their money, and seriously to damage their credit. There could, he firmly declared, be no half way between damage to the credit of the companies and the acquisition of the railways by the country.

The Committee presented their report to Parliament in December, 1893. They came to the conclusion that the course the companies took in charging

the maximum rates was unsatisfactory and unjustifiable, leading to the dislocation of trade and the alarm of many commercial interests. It was never the intention of Parliament that they should raise their non-competitive actual rates by five per cent. all round for the purpose of recouping themselves for the reductions of the other rates which Parliament had pronounced to be unreasonable. The Committee were not surprised that there should be strong feeling on the part of large bodies of traders whose rates had been raised, and also a sense of insecurity, a fear lest rates might again be raised to the maximum authorised by the recent Acts, or that a demand should have arisen for the intervention either of the Board of Trade or of a tribunal, such as the Railway Commission, to fix rates in future. But, after serious consideration, it did not seem advisable to the Committee to give the Board of Trade power to enforce its decisions in cases of dispute between the companies and traders, nor to give to an administrative department of the Government, responsible to Parliament, the power of deciding in any or every case what should be the rates for the conveyance of goods or other matters in dispute.

Nevertheless the Committee thought that matters cannot be left as they now are; that some further step must be taken to protect traders from unreasonable raising of rates, even within the maximum charges defined by Parliament. They held that where a trader complains that the increase is excessive, and the conciliation clause fails to result in an amicable settlement, the

petitioner should be able to go before the Railway Commission, and that that body should have power to decide whether the increase is just and reasonable or not.

So far the decision of the Committee brings "cold comfort" to the trader. He looks upon an appeal to the Railway Commission with less hope than Miss Flight, the "little mad old woman, with reticule filled with documents," waited for the decision in a famous friendly suit in the Chancery Court. The Railway Commission has drifted into a coveted sinecure. In the days of Mr. Price, who was formerly chairman of the Midland Company, and one of the most experienced men of his time in railway administration, it did some practical work; but it has always been a costly court of appeal, and its members, two of whom get salaries of £3,000 a year, now meet seldom and do little. The remarkable statement is made that the Railway Commission has only sat on an average twenty-three days a year, and that, as now constituted, there is no member on it who has any experience in commercial affairs, or who is specially acquainted with the requirements of traders.

Very properly the Committee said they could not recommend the continuance of the body in its present form. They thought one of the members should be experienced in trade to balance the experience in railways of the other members, and that the appointment of lay commissioners should not be permanent, or necessarily carry the right to pensions. They insisted,

too, lest the costly nature of the Railway Commission should still deter traders from applying to it, that the Commission should not have power to award costs, unless either the claim or the defence has been frivolous and vexatious. But why did they not suggest the abolition of the Railway Commission altogether, and the appointment of a Railway Board of Conciliation, composed of railway managers and representative traders, with an independent chairman, by whom the settlement of disputes would be easy and cheap?

CHAPTER XLIV.

THE LAST CHAT.

The Wonderful Development of Railways—Their Extent—The Money Invested in Them—The Employment They Give—A Word from the Prince of Wales—The Carriage He Journeys In—Railway Men and Courtesy—A Gratifying Subscription—The Railroad to Distinction—Celebrating the Birth of Railways—Professor Tyndall—New Railway Projects—Science and Travel—The Greatness of the Past—A Faithful Servant—What the Locomotive has Made Possible.

THE world has marched quickly in this century. It has flung the strength and resource of its most vigorous life into scientific experiment, engineering achievement, into earnest, methodic, skilful industry, and into adventurous trade projects that have swiftly followed the explorer's tread. But we only realise how fast the world has moved when we compare its modern speed and high pressure with the lives of those who are in it, and yet not of it—with the old-world, uneventful, placid existence, for instance, of the gardener's wife near Northwich, who, in the spring of 1892, on her husband's death, travelled to live with her son, and on the journey rode in a cab for the first time, saw a railway for the first time, and first looked upon a gas light. There are people still alive who remember George Stephenson's tall figure, and kindly face, and north-country talk. Half a century ago, with the satisfaction of many a

railway made and much difficult work accomplished, he was strolling about his garden at Tapton House, delighting in the simple pleasures of a country life, yet fond of looking back into the past, and of prophesying a great career for the locomotive in the future.

Yet it is doubtful whether he imagined the wonderful development of railways that the next half-century was destined to see. The surveyor, the engineer, the navvy, the platelayer, the engine-driver, have penetrated to nearly every land. At the beginning of 1891 there were no fewer than 385,803 miles of railway open in different parts of the world. Of these, according to a table presented in that year at the International Railway Congress in St. Petersburg, 167,755 are in the United States, 14,082 miles in Canada, and 5,625 miles in Mexico and the Argentine Republic. In Europe, the German Empire comes first with 26,790 miles; France second, with 24,310 miles; Great Britain and Ireland third, with 22,685 miles; and Russia fourth, with 19,345 miles. There are 110,000 locomotives running on the world's railways, and of these 63,000 are at work in Europe, 40,000 in America, 3,300 in Asia, 2,000 in Australia, and 700 in Africa, Great Britain alone possessing 17,000.

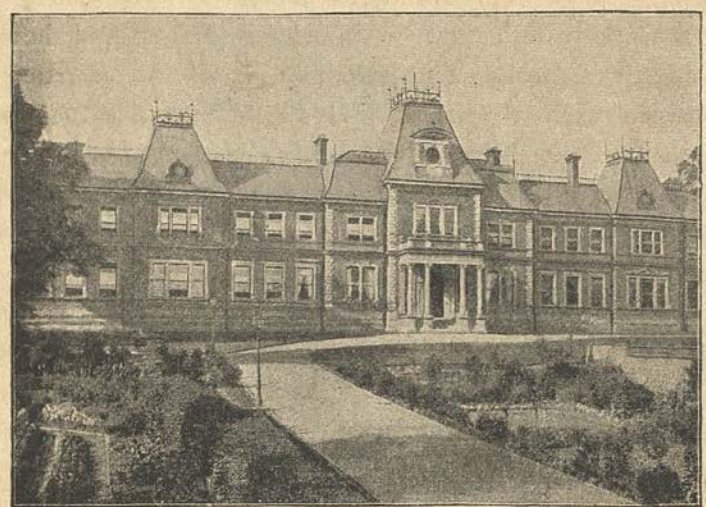
There are more than 11,000 miles of double line open in this country; and of these, 10,650 miles are worked on the absolute block system, a great improvement on the state of things in 1875, when

there were 8,776 miles of double line open, and only 5,582 miles worked on the absolute block system. Various safeguards, including the absolute block, permissive block, and train staff with tickets, are employed in the working of single lines; and on these safeguards the Great Eastern Railway Company alone have spent one and a half million of money. Figures are not always eloquent; but they become striking when they show how vast and intricate is the network of English railways—"that there are 6,032 cases in which a passenger line is crossed on a level by another passenger line, and 2,074 cases of such lines crossed by goods lines, 23,672 crossed by sidings, and 9,079 by over-cross roads."

The capital invested in the railways of this kingdom amounts to nine hundred and forty-four millions of money; eight hundred and sixty-four millions of passengers travel by rail every year; three hundred millions of tons of merchandise and minerals are conveyed; and the total annual receipts reach the enormous sum of eighty-two millions. The lines give employment to five hundred thousand railway servants; and that directors and shareholders are not altogether indifferent to the home life of these men and their children is shown by the establishment of various institutions and funds for their benefit.

One of the most important of these is the Railway Benevolent Institution, whose Orphanage, established for children of railway men who have lost their lives on the line, is at Derby. Speaking on its behalf,

in 1873, the Prince of Wales said: "Nobody advocates its claims more ardently than I, and nobody will continue to take a greater interest in everything connected with our railways. To show you that I



ORPHANAGE OF THE RAILWAY BENEVOLENT INSTITUTION AT DERBY.

am not using mere stereotyped phrases, I may tell you that no week elapses without my travelling once or twice at least by train. I have, therefore, the opportunity of seeing, as well as anybody can see, how admirably our railway system is worked; not only the managers and directors, but the officers and servants, have my warmest admiration for doing their utmost in the execution of their duty, and also for their unvarying courtesy and attention."

On no line is this consideration more apparent than on the Great Northern, where a Royal saloon is

kept for the Prince's use. Mr. Brickwell, describing this vehicle in a recent book entitled "Round the Works of Our Great Railways," writes: "There are six compartments and a corridor. The first compartment is the Princess's sleeping apartment, trimmed in sage green, and decorated with white enamel, and hand-painted ceiling. The saloon and dining apartment is lined with rosewood, and painted ceiling, trimmed with peacock blue. It contains two tables and six easy chairs. One of the tables is telescopic, and although it appears similar to a very light card table, it will assume a length enough for six people to dine at. The smoking apartment (which is oak lined) immediately adjoins; it contains three chairs, and is hung with amber. Next in order comes the Prince's sleeping apartment, lined with cedar, and fitted with a couch and bed, exquisitely upholstered."

A question in Parliament in September, 1893, with regard to the Queen's messenger special train in Scotland, which is paid for by the Treasury, reminded many people that the railway has something to do with the government of the country. At all events, it makes daily communication between the Ministry and the Queen possible, and whenever her Majesty stays at her Scotch house, messengers go to and fro between London and Balmoral at her command, and sometimes they carry despatches of grave import. Like the Prince of Wales, the Queen now and then makes the express her home. She eats, sleeps, reads, and writes in it. On her long journey from Balmoral

she has pondered on many a political move and Court intrigue, and wondered whether that statesman was worthy of his portfolio, or this courtier should receive indication of her displeasure at his heinous fault. She has, in the railway carriage, given her assent to proposals that, if resisted by foreign Power, would mean war. She has signed documents heralding peace, and Bills that, after running the gauntlet of both Houses, have given greater political freedom to the British people. The Queen, in fact, has swayed the Empire in her cosy Royal saloon, with its comfortable furniture, and thickly-carpeted floor, and paddings of quilted silk that keep out the wind's blustering voice and deaden the train's vibration, but fail to prevent the urgent affairs of State from creeping in.

The humblest passenger does not, perhaps, on every line receive so much "unvarying courtesy and attention" as these Royal personages. Some men are prone to rudeness, or have a nervous system easily irritated; and the author has, in a crowded station on a hot day, heard a porter shout, as he struggled with luggage-laden barrow through the throng: "By leave, mar'm." "Mind yourself." "Now then! look alive, you old fool!"

Still, the railway men of England, as a rule, do their work cheerfully, courteously, bravely, often when very weary, or in trouble, or in the midst of peril; and any institution that gives them relief in accident is worthy of the most generous support. That many shareholders and passengers hold a

similar opinion is evident from the fact that the Railway Benevolent Institution, which began in 1859 with an income of £2,000, has now an income of £50,000, and affords help by pension, annuity, and the care of orphans, in no fewer than four thousand cases a year. The great railways not only liberally subscribe to the funds, but endeavour to induce everybody to do likewise. In 1892 the London and North-Western contributed and raised £9,500 for its support; and at the annual dinner in 1893, Mr. Paget, the chairman of the Midland, made the gratifying statement that during the year his company, with the assistance of a host of friends, had succeeded in obtaining a total subscription of £15,608.

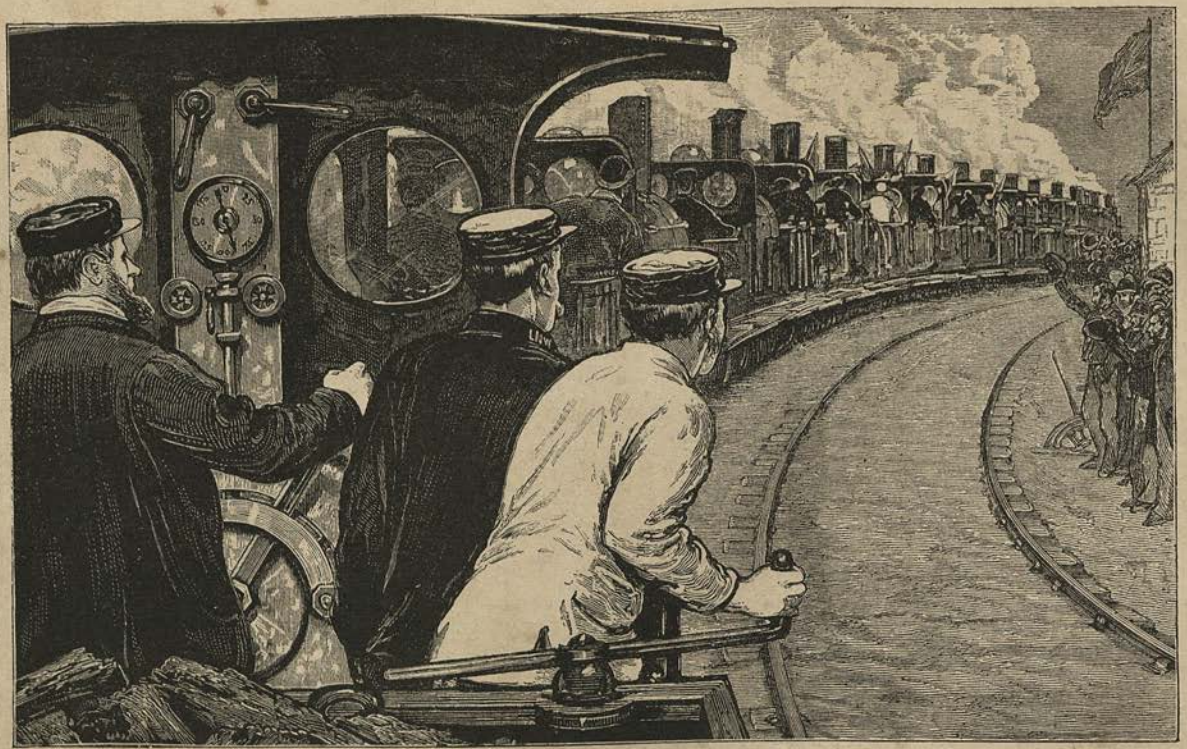
There is much hard work and poor pay on the railway, but it has many lucrative positions in its numerous departments, and is occasionally the road to wealth; for Sir James Allport, who entered the service of the Birmingham and Derby Railway in 1839, as chief clerk, at a by no means princely salary, died worth £193,000. The railway track is also steadily leading to distinction. Formerly the devious paths of politics, the secret ways of diplomacy, and the rugged roads across the battlefield, heaped with human ruin, alone led to dignities and honours. Now art, philanthropy, and earnest work are recognised. The painter, as well as his worship the Mayor who entertains her Majesty, is knighted. The man who gives of his riches to the poor; who strives to

brighten their lot by better housing, or by founding institutions to meet their physical and mental need, is called to Windsor, to bend the knee before the Queen. Giants of industry are made baronets and peers; and there is scarcely a general manager on a prominent railway who has not been knighted—"Dan" Gooch, on the Great Western, became Sir Daniel Gooch; James Allport, on the Midland, Sir James Allport; George Findlay, on the London and North-Western, Sir George Findlay; Henry Oakley, on the Great Northern, Sir Henry Oakley—and there may be honours in store for other men, who, with shrewd mind and tireless effort, now control our great railways. Nay, it is possible that the railway servant is, after all, more fortunate than the French soldier who carries the marshal's baton in his knapsack; for some day, the water-splashed carriage-cleaner, the lad who black-oils the wheels of the express, or the dirt-begrimed youth who stands in the sidings blowing his shunting horn, may be the chairman of a great railway company, and have "a handle to his name."

The fiftieth anniversary of the opening of the Stockton and Darlington Railway was, on September 27th, 1875, celebrated at the latter place with great rejoicing, in which the Lord Mayor of London and the Lord Mayor of York took part. A statue was unveiled by the Duke of Cleveland to the memory of Joseph Pease, and a banquet was given, at which reference was made to railway and national progress.

The centenary of George Stephenson's birth was celebrated with great rejoicing at Newcastle and Chesterfield on June 9th, 1881. At the banquet in the latter town, Mr. Frederick Swanwick, one of George Stephenson's pupils, was a guest, and said he went through all the work on the Liverpool and Manchester Railway. The duty of the engineer at that time was not simply to lay out the line, to make drawings and specifications. George Stephenson had to design the waggons to move the earth, and the cranks to lift the stone, and the instruments to make the permanent way. Almost the last time he saw his old master he was in the society of Emerson; and, singular to relate, he was propounding to the American thinker the theory that magnetism and electricity would become great powers in the world. Lord Edward Cavendish, who presided at the Chesterfield festivity, spoke of the magnificent results of the great engineer's perseverance, and telegraphed to the Mayor of Newcastle: "Thirty thousand people have assembled in Chesterfield to-day to do

STATUE OF JOSEPH PEASE.
(From a Photograph by Frank W. Cooper, Darlington.)



PROCESSION OF ENGINES PAST GEORGE STEPHENSON'S HOUSE AT WYLAM.

honour to the memory of George Stephenson. We join hands with you, and wish you all success;" and his worship replied: "We reciprocate your kindly feeling. At least, 100,000 men assembled here to-day to do honour to the memory of Stephenson, and all has passed off well."

The north of England will never possess a more striking reminder of honesty, genius, and earnestness of purpose than the lowly cottage, clay-floored and bare-raftered, at Wylam, in which George Stephenson was born; nor will a more remarkable demonstration soon be witnessed anywhere than the procession of engines past his birthplace. This was by far the most interesting feature of the centenary celebrations.

English tourists sauntering through the streets of Brussels, on August 16th, 1885, saw an almost unique demonstration in the city, the fiftieth anniversary of the introduction of railways into the country being celebrated with much pomp and ceremony. A procession, a mile long, representing vehicles of travel in olden time as well as of the present day, went through the thoroughfares, and included "a faithful reproduction of the first train that ran from Brussels to Malines in 1835," on which journey George Stephenson was an observant passenger, no doubt thinking much but saying little of the habits and customs of the Belgian-French, whose ways were apt to be held in rough contempt by John Bull in the first half of this century.

Professor Tyndall's pathetic death on December

4th, 1893, not only drew attention to the progress of scientific discovery in this century, but also recalled the fact that "Our Railways" have been developed in the span of one man's life. The hot disputant, the traveller in the cause of science, the climber of glaciers, was at the age of twenty-four a railway engineer; and in the railway mania he joined the surging feverish crowd that sought to make money quickly by dabbling in stock, though he soon wearied of the clamour and fight for gain, for he wrote to a friend that during his professional connection with railways he endured three weeks' misery. It was not, he said, defeated ambition, or a rejected suit, or hardship endured in office or field; but the possession of shares in one of the lines then afloat. He was haunted by the Stock Exchange, and became at last so savage with himself that he went to his brokers, and without loss or gain, put away his shares as an accursed thing.

History, as we have seen, is now made rapidly. The Midland Railway Company run their expresses, with first- and third-class dining cars, through the Lancashire and Yorkshire station in Manchester, and by Hellifield and Carlisle, in connection with fast trains to Glasgow; but there is a project to make a more direct line between the two cities. Other promoters are busy with a scheme for the construction of a line from Bradford, through Barnsley to Sheffield, and they claim that the new railway will make the distance

between these industrial centres shorter by seventeen miles.

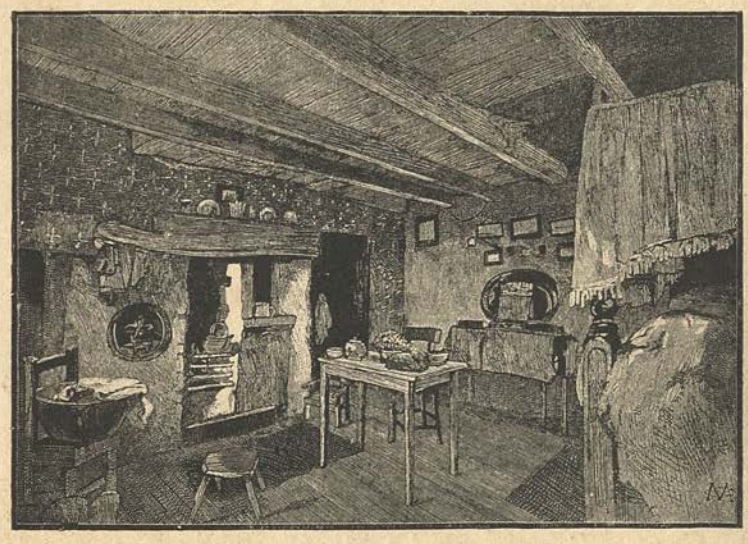
In the first volume of this work the author touched upon the need of a central station at Sheffield, and pointed out a suitable locality; but before the book

THE HOUSE WHERE GEORGE STEPHENSON WAS BORN (*Page* 514).

has seen the light another idea has been broached, and there is a proposal to make what is styled the Sheffield Central and District Railway, at the cost of one million of money. An area known as the Crofts, in the heart of the city, has been mentioned as the site of the central station, which is to be after the fashion of New Street Station, in Birmingham; and from its platforms access will be obtained by

viaduct and tunnel, not only to the suburbs, but to such of the great railways as choose to become connected.

Railway enterprise has penetrated into a remote part of North Cornwall, to the famous slate quarries



THE ROOM IN WHICH GEORGE STEPHENSON WAS BORN (*Page* 514).

of Delabole, which have been worked almost without intermission since Elizabeth's reign. It has moved higher up the western country, too; and the Midland and Great Western Companies have acquired the Severn and Wye and Severn Bridge Railway. The gang of navvies—"Dandy Dick," "Gloucester Joe," "Back-stitch Nobby," and their tribe—have tipped the last barrowload on the Manchester Ship Canal and tramped to new toil. The great waterway, which has cost

six years in time and fifteen millions of money to construct, is opened for traffic, and is, if in some sense a rival, already a feeder of the railways.

Two of the most novel forms of railway lighting and engineering have been prompted by the application of electricity as an illuminant and as a motive power. On the Underground Railway, for instance, the passenger, by putting a penny in the slot, can turn on the electric light, which glows from the disc for half an hour, and enables him to read with far more comfort than he was wont to do by the fitful gleam of the roof light, or the flicker and splutter of the old-fashioned reading lamp.

From the roar of London traffic to the wind-swept summit of the great Orme's Head, in North Wales, is a long step; but the railway engineer takes little thought of distance, and his latest climb with theodolite has been up the back of the gigantic crag that stands sentinel to Menai Straits. Sturdy folk, who have been in the habit of striding along the drive to the lighthouse at the edge of the cliff, or going up the steep path through the Happy Valley to roam over heather and hill pasture, have heard of this man's expedition with regret. Lovers of the picturesque have scowled at him; and poets and artists have suggested that he should be flung into Shenkin's cave. But he seems determined to carry an electric railway over the shoulder of the Great Orme from the Llandudno side, and proposes that the line should strike along the slope behind Church

Walks, up the ravine to a point beneath Tyn-y-Coed, reach the cliff top through a cutting, and go by the little church of St. Tudno to the highest point of the mountain.

Opinion in Llandudno is divided on the project. The threatened spoliation of the lofty, picturesque wilderness has filled one section with indignation and disgust. The other think there is use, and also profit, in the scheme; and though it may be "absurd to suppose that trippers will flock to Llandudno from the ends of the earth to ride up the Orme," it is exceedingly likely that the railway will be built, and that in a year or two passengers will be able to book to St. Tudno Station.

What development of travel may take place in the next half-century, no man can tell. Science has done much in the past fifty years, but it is only in its early manhood, full of strength and resource, and restless to achieve. In the words of M. Zola, it is impossible to imagine what "it will wrest from the unknown." It may perfect the mechanical appliances to hand, so that the engine, with electric head-light, will run at greatly accelerated speed; that the passengers will be able to enter and alight from the rushing express, like post-bags from the night mail, but with less concussion; and that work on the line will be so safe that railway disaster will occur no more, and become merely a fable. It is even possible that science may discover a new motive power that will eclipse steam and electricity, and make our progress through the world not less

graceful and easy, and even swifter, than the swallow's flight.

In the meantime, we have not much to grumble at. It is the fashion to talk of the greatness of the past, particularly of the industrial skill, the art, and the culture of ancient Egypt. The people were clever in painting, in pottery, in making flower-garlands, and in the melancholy work of building tombs; but, though they had a knowledge of the expansive force of steam, they failed to apply it. The great of the past had to be satisfied with the lurch and jolt of the camel. Notwithstanding the glamour that spreads right away from the Twelfth Dynasty down to the "good old times," one feels that, taking everything into consideration, it is better to be alive now! Certainly, we have the advantage in the matter of travelling. Professor Thurston says the steam engine is the source and foundation, to a great extent, of our material, intellectual, and moral wealth; that it stands or runs, "a mist-giant, a genius of more than Aladdin-like power, the maker and guardian of modern life."

It is also a quick and faithful servant, driven by industrial heroes, and guarded on its danger-crossed path by watchful men, who, amid the incessant roar of passing train on city track, or in lonely vigil in country cabin, have to find their chief satisfaction and solace in duty well done. Now it is possible, even to the poorest, to break the monotony of life; to run on a half-day trip from the stifling air of the mill to the shaft of sunlight that gleams on the wild flowers in the glade,

or plays about the old boat that after many a run and tack in storm, now leans at rest on shore, with its rusty keel half buried in the sand. To the rich the locomotive has opened up an exquisite variety of existence, of travel even in the remotest land; and at home it pulls us so quickly from city to city, in such roomy, comfortable carriages, that there is hardly any point now in Touchstone's half-reproach in *As You Like It:* "When I was at home, I was in a better place; but travellers must be content."

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